



Innovative electrical systems – Built to last

2 0 1 4

Power Conversion

Battery Management

Circuit Protection and Switches

Connectors and Insulators

Power Distribution

Metering

Accessories

Table of Contents

Power Conversion

P12 Battery Chargers	8-9
P12 Battery Charger LED Remote	10
DeckHand Dimmers	11

Battery Management

Manual Battery Switches	14-19
Battery Management Panels	20
Remote Battery Switches	22
Low Voltage Disconnect	23
Automatic Charging Relays	24-28

Circuit Protection and Switches

Fuses	34-37
Fuse Holders and Fuse Blocks	37-45
Circuit Breakers	46-59
Water Resistant Contura Switches	60
WeatherDeck™ Toggle Switches	62

Connectors and Insulators

BusBars	66-69
Terminal Blocks	69
Terminal Feed Through Connectors	70
CableClams	73
PowerPost Cable Connectors	70
CableCap Insulators	72

Power Distribution Panels

WeatherDeck™ Waterproof	76-77
Contura Switch Water Resistant	78-79
360 Panel System	80
Traditional Metal	81
DC Branch Circuit Breaker	82-85
AC Branch Circuit Breaker	86-87
AC Main Circuit Breaker	88-89
AC Source Selection Circuit Breaker	90
AC RCBO, GFCI, ELCI Circuit Breaker	91
AC 240V AC (60Hz) Circuit Breaker	91
AC Source Selection Rotary Switch	92-93
AC/DC Combination Circuit Breaker	94-95
Custom 360 Panel System	96-99

Metering

Vessel Systems Monitor VSM 422	102
Digital Meters and Panels	104-105
Analog Meters and Panels	106-107
DIN Meters	108
Mini Clamp Multimeter	109
Shunts and Current Transformers	109
2 Inch Round Gauges and Panels	111

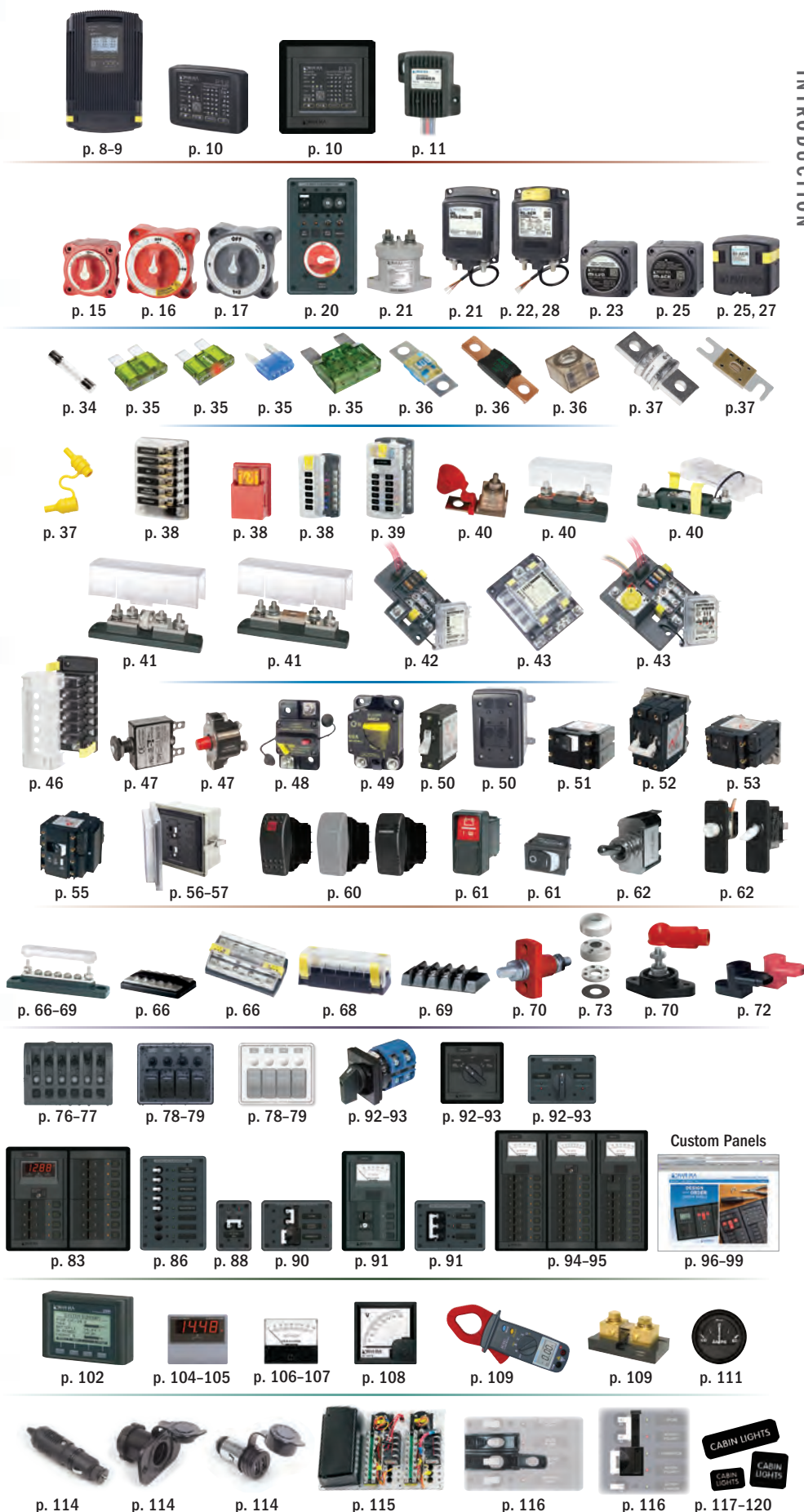
Accessories

12 Volt Socket and Plug	114
USB Chargers	114
Lockout Slides	116
Labels	117-120

Appendix

Wire and Fuse Selection Chart	121-123
Battery Switch Wiring Diagrams	124-125
DC Discussion	126
AC Discussion	127
Marketing Materials	128
Merchandising Plans	129

Quick Reference



Power Conversion



5 YEAR WARRANTY
DESIGNED, ASSEMBLED,
and TESTED in the
USA

7521, 7522

P12 Battery Chargers (p. 8-9)

Four-stage, three-output charger with a rugged cast aluminum case. PreFloat stage helps to prevent overcharging. Designed, assembled, and tested in the USA.



7520

P12 Battery Charger LED Remote (p. 10)
Indicates battery charger status and alerts as well as controls basic battery charger functions. Can be surface or panel mounted.



1521

360 Panel

P12 Battery Charger LED Remote (p. 10)
Indicates battery charger status and alerts as well as controlling basic battery charger functions. Mounted in a 360 Panel frame.

Battery Management



7635

M-LVD Low Voltage Disconnect (p. 23)

Senses low battery voltage and disconnects non-critical loads to save power for engine starting.

Circuit Protection and Switches



3120

SMS Surface Mount System (p. 57)

Waterproof Rated IP66 panel enclosure with a 240V AC, 50A ELCI circuit breaker.



5050, 5051, 5052, 5054

ST CLB Circuit Breaker Block (p. 46)

Consolidates popular Push Button Reset-Only CLB Circuit Breakers into a surface mountable block. Screw terminals (ST) provide secure and reliable wiring. Includes insulating cover.



Fuse Packs (p. 35-36)

25 quantity packs of the most commonly used fuses and amperages in a compact and re-sealable kit.



7943

7944

7945

Contura Bilge Pump Control Switches (p. 60, 63)

SPDT, (ON)-OFF-ON with LED On indication when bilge pump is running. Available in Contura II Black and Contura III Gray and Black actuator styles.

Connectors and Insulators



1001100, 1002100, 1003100

Cable Clam with Stainless Steel Dress Cap (p. 73)

Features pre-drilled rubber inserts for easier installation. Stainless steel dress cap conceals mounting hardware and matches stainless steel deck fittings.

1007, 1007100

Side Entry Cable Clams with Stainless Steel Dress Cap p. 73)

Provides side entry for antenna cables. Stainless steel dress cap conceals mounting hardware and matches stainless steel deck fittings.

Power Distribution



4303, 4305, 4307, 4309

WeatherDeck® Switch Only Panels (p. 77)

Rugged waterproof switch panel without the added cost of backlighting or circuit protection. Allows circuit protection to be consolidated in a dry location with the addition of an ST-Blade Fuse Block or ST-CLB Circuit Breaker Block.



1520

360 Panel Blank ML-Contura Switch (p. 61)

Blank frame for mounting three Remote Control Contura Switches (2145, 2146, and 2155)

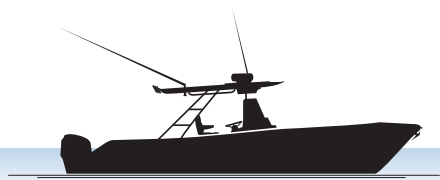


1522

360 Panel Dual Bilge Pump Control (p. 61)

Controls two bilge pumps with restricted-off circuit breakers and manual override switches. Provides 24-hour circuit protection to bilge pump float switches. LEDs indicate 24-hour power and pump running status.

2 BATTERY BANK, 1 ENGINE ELECTRICAL SYSTEM



Power Conversion

1. DeckHand Dimmer (p. 11)
Digitally controls dimming of non-regulated LED, incandescent, and halogen lights.

Battery Management

2. m-Series Battery Switch (p. 15)
Compact 300A continuous rated battery disconnect.
3. m-ACR Automatic Charging Relay (p. 25)
Automatically combines batteries during charging, isolates batteries when discharging.

Circuit Protection and Switches

4. ST-Blade Fuse Block (p. 39)
Compact ATO®/ATC® Fuse Block with independent source to protect both switched and 24-hour circuits.

Connectors and Insulators

5. PowerPost Plus Connector (p. 67)
Enables connection of multiple smaller wires in spaces where a traditional busbar may not fit.

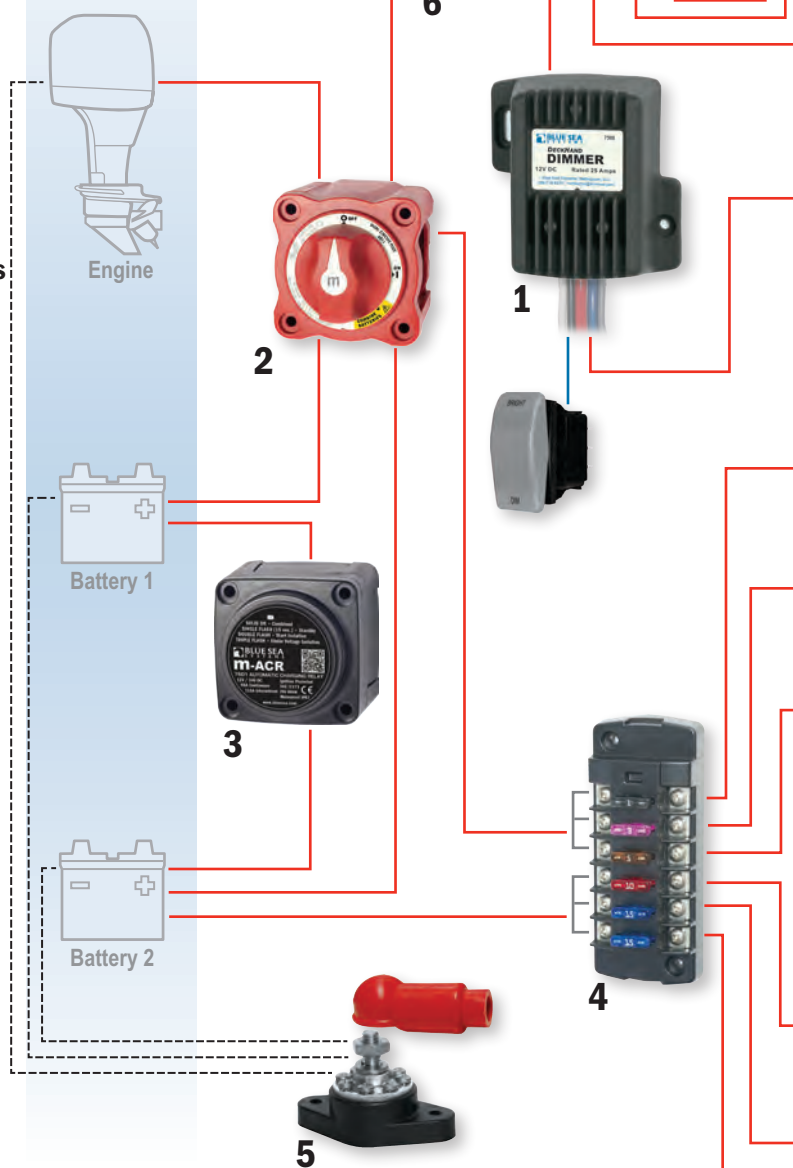
Power Distribution

6. WeatherDeck® Panel (p. 77)
Blue Sea Systems most waterproof panel for open cockpit or flybridge applications.

Accessories

7. Dual USB Chargers (p. 114)
Conveniently charge popular USB-powered mobile devices.
8. 12V DC Socket (p. 114)
Dual USB Charger Plug twist locks securely into 12V DC Socket.

DC SOURCES



LEGEND

- Power DC
- Monitor and Control
- Ground DC

DC LOADS



Blower



Horn

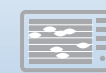


Running Lights



Cabin Lights

Switched Circuits



Fish Finder



GPS

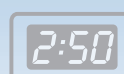


VHF

24-Hour Circuits



Bilge Pump



Clock



Alarm

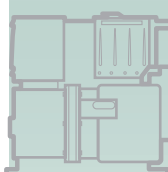
3 BATTERY BANK, 1 ENGINE ELECTRICAL SYSTEM



AC SOURCES



Shore Power

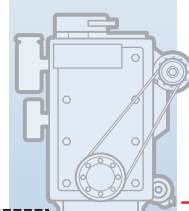


Genset

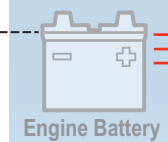


Inverter

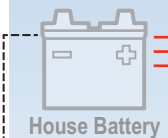
DC SOURCES



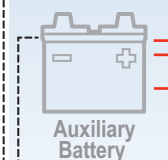
Engine



Engine Battery



House Battery



Auxiliary Battery

Power Conversion

1. P12 Battery Charger (p. 8-9)
Digital, four-stage charger designed to meet global electrical requirements.
2. P12 Battery Charger LED Remote (p. 10)
3. DeckHand Dimmer (p. 11)
Digitally controls dimming of non-regulated LEDs, incandescent, and halogen lights.

Battery Management

4. M-Series Battery Switch (p. 15)
Compact 300A continuous rated battery disconnect.
5. E-Series Battery Switch (p. 16)
Standard case 350A continuous rated battery disconnect.
6. ML-Series Remote Battery Switches (p. 22)
500A magnetic latching relay with manual control.
7. SI-ACR Automatic Charging Relay (p. 25)
120A relay automatically combines batteries during charging, isolates batteries when discharging and when starting engines.
8. ML-Series Automatic Charging Relay (p. 28)
500A magnetic latching relay automatically combines batteries during charging, isolates batteries when discharging and when starting engines.

Circuit Protection and Switches

9. SMS Surface Mount System (p. 57)
Provides a sealed enclosure for surface mounting ELCI Main and other circuit breakers.
10. ST-Blade Fuse Block (p. 39)
Compact ATO®/ATC® fuse block consolidates, insulates and identifies multiple branch circuits.
11. Safety Fuse Block - MIDI® Fuse (p. 40)
30A-200A circuit protection with independent fuse studs and insulating cover.
12. Class T Fuse Block (p. 41)
225A-400A circuit protection with independent fuse studs and insulating cover.
13. SafetyHub 150 Fuse Block (p. 43)
Ignition protected 1A-200A 10 circuit fuse block with built-in negative bus.

Connectors and Insulators

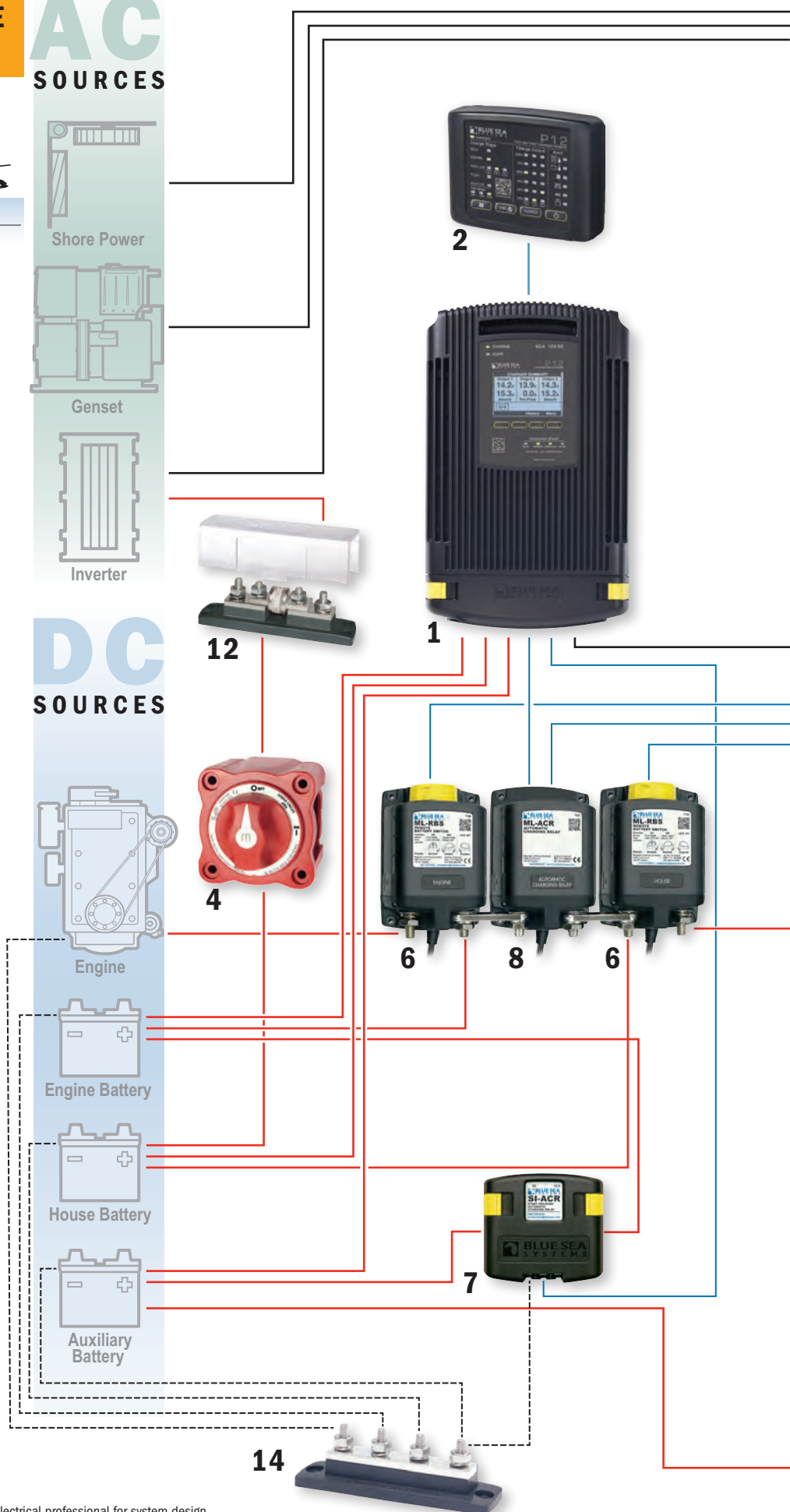
14. MaxiBus Common BusBar (p. 68)
250A tin-plated copper busbar for AC or DC circuits with optional insulating cover.

Power Distribution

15. WeatherDeck® Waterproof Panel (p. 76-77)
Blue Sea Systems' most waterproof panel for open cockpit or flybridge applications.
16. Custom AC/DC 360 Panel (p. 96-99)
Custom panels generally ship within seven days of order receipt.

Monitoring

17. Vessel Systems Monitor (p. 102)
Four meters in one including AC, DC with Amp Hours, Tanks and Bilge.



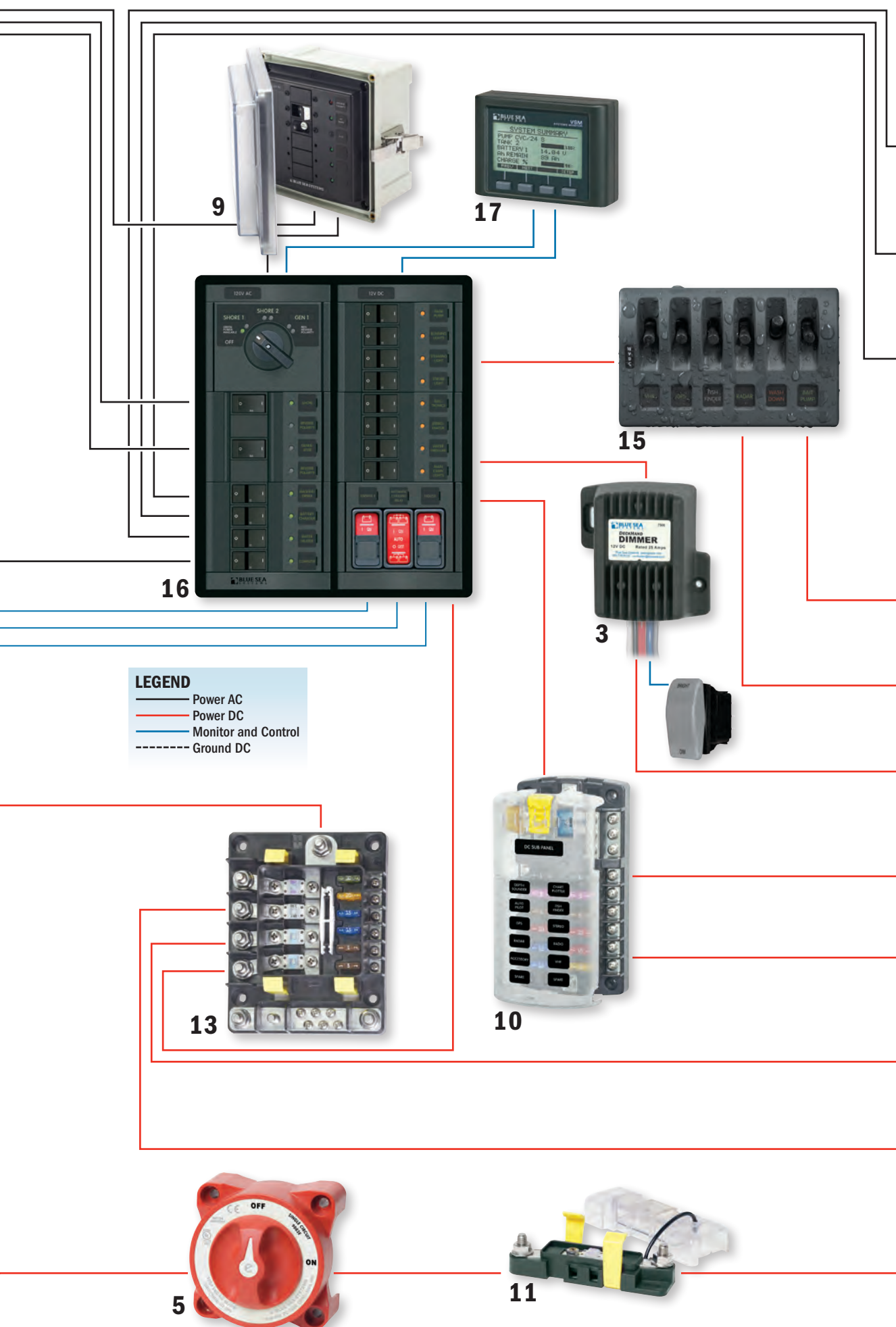
AC

AC LOADS



DC

DC LOADS





Blue Sea Systems P12 Battery Chargers are designed to perform in the most challenging conditions found around the world.

POWER CONVERSION

Drawing on experience gained from years of design, manufacturing, and customer input, Blue Sea Systems introduces the P12 Battery Chargers.

Customers have asked for a battery charger with the latest technology and features built with the integrity and engineering expertise applied to every Blue Sea Systems product. Customers want a charger that can work anywhere, in any conditions, with any battery type, is easy to install, and intuitive to operate. They also demand a high level of product support for questions and troubleshooting. Blue Sea Systems P12 Battery Chargers meet these requirements and offer peace of mind with an industry-leading five year warranty.

SECTION INDEX

BATTERY CHARGERS

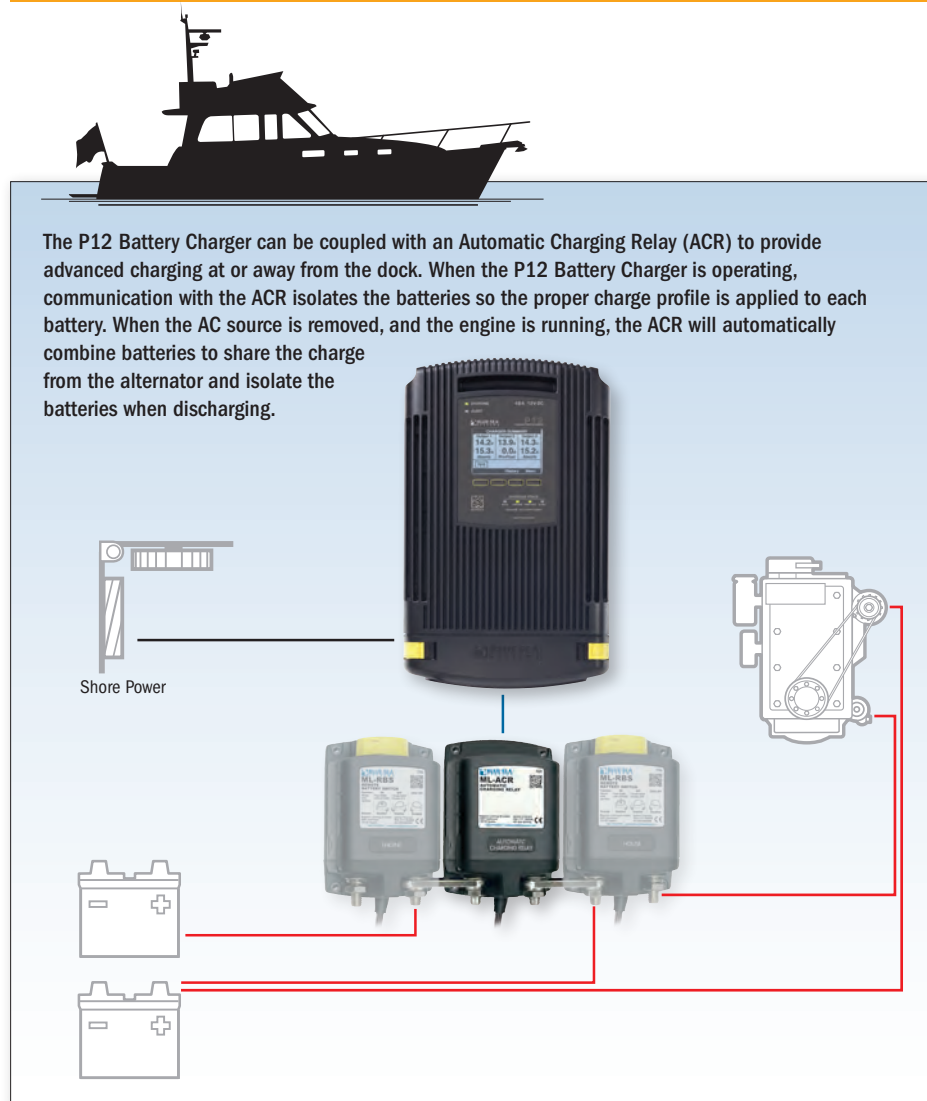
P12 Battery Chargers 8-9

P12 Battery Charger LED Remote 10

DIMMERS

DeckHand Dimmers 11

SUBSYSTEM



P12 Battery Chargers



Scan for
additional
product
information

The P12 Battery Charger is designed, assembled, and tested at Blue Sea Systems company headquarters in Bellingham, Washington. The P12 Battery Charger was designed to support three core company philosophies:

1. Reliability

- Rugged, finned aluminum case
- Universal line voltage 90-265V AC, 50/60 Hz
- AC over and under voltage shut down and automatic restart
- PreFloat stage prevents over charging by allowing each battery to end absorption stage individually

2. Ease of use

- Large, bright display
- Multi-language: English, French, German, Italian, Spanish
- Other languages may be available that meet order quantity commitments
- Charge coordination with Blue Sea Systems Automatic Charging Relays (ACR)

3. Support

- Intuitive diagnostic screens
- Industry leading factory technical support
- 5 year warranty

Additional design elements support the three core philosophies:

1. Electrical Performance

- Power factor corrected for efficient use of AC

2. Advanced Multi-Stage Charging

- Three outputs provide charging for up to three battery banks
- User selectable charge profiles for lead acid, gel, AGM or new TPPL (Thin Plate Pure Lead)
- Supports Lithium and other battery types with user adjustable charge profiles
- ACR Charge Coordination controls ACR state ensuring proper float stage for each battery

3. Built In Safety Features

- Ignition protected
- Over and under temperature protection for batteries
- Overheating protection
- DC over voltage protection
- DC reverse polarity protection
- Surge and short circuit protection

Optional LED Remote (see page 10 for details)

Part N°	Description	Volts	Outputs
7521	25A Battery Charger	12V DC	4
7522	40A Battery Charger	12V DC	4



Specifications

Part N°	7521	7522
Total Output Current (Limited)	25A	40A
Nominal Output Voltage	12V DC	12V DC
Output Connections	3 positive 1 negative	3 positive 1 negative
Universal AC Input Voltage	90-265V AC	90-265V AC
Nominal AC Input Frequency	45-65 Hz	45-65 Hz
Maximum Output Voltage	16.0V DC	16.0V DC
Output Voltage Accuracy	0.05V DC	0.05V DC
Minimum Operating Temperature	-20°C (-4°F)	-20°C (-4°F)
Maximum Operating Temperature	70°C (158°F)	70°C (158°F)
Minimum Storage Temperature	-30°C (-22°F)	-30°C (-22°F)
Maximum Storage Temperature	80°C (176°F)	80°C (176°F)
Maximum Parasitic Current	2mA	2mA
Warranty	5 Year	5 Year
Battery Types	Flooded Lead Acid Gel AGM TPPL Thin Plate Pure Lead Lithium*	Flooded Lead Acid Gel AGM TPPL Thin Plate Pure Lead Lithium*

* Supports Lithium and other battery types with user adjustable charge profiles

Regulatory

Design and construction compliance to UL-1236 marine (including ignition protection) and CSA 22.2 No. 107.2-0 standards. Meets all elements of ABYC A-31 and certain NMEA requirements. To view the most current regulatory certifications, visit www.bluesea.com/P12.

Related Products



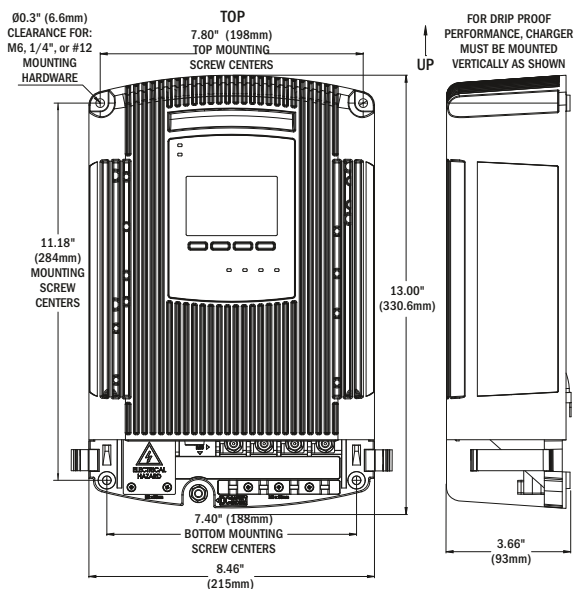
P12 Battery Charger
LED Remote
p. 10



SI-ACR
p. 25



ML-Series
Automatic Charging Relays
p. 28



Connections

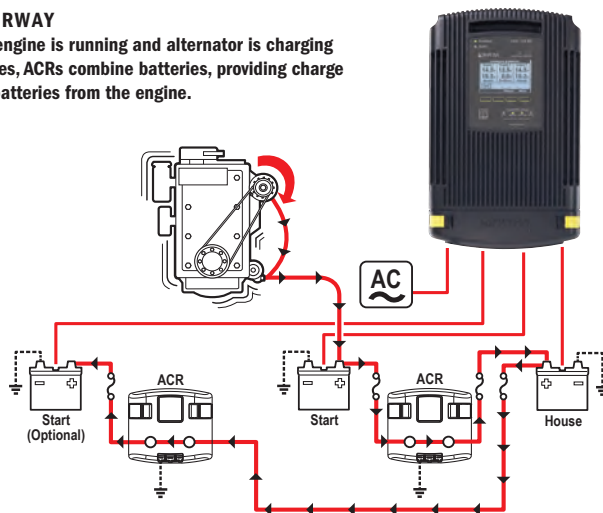
Easily accessed, robust connection section designed for maximum safety

Charge Coordination Explained

A boat's batteries typically spend less than 2% of their time being charged by the alternator. For the remaining 98% of the time they are being maintained by the AC battery charger. During this time, it is important that the proper charging stage of Bulk, Absorption, PreFloat, or Float be applied to each battery.

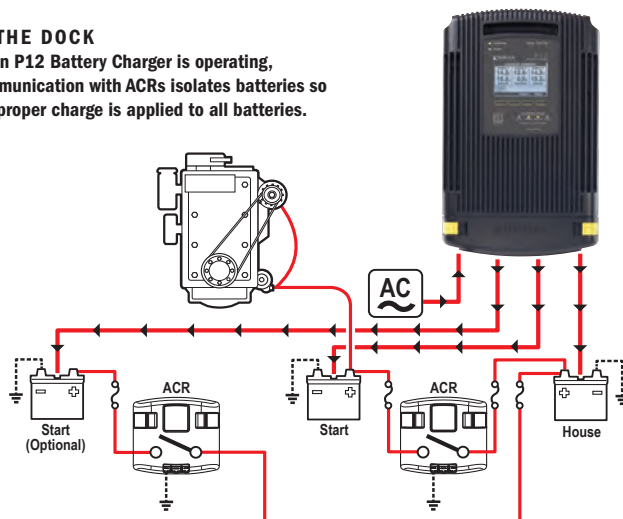
UNDERWAY

When engine is running and alternator is charging batteries, ACRs combine batteries, providing charge to all batteries from the engine.



AT THE DOCK

When P12 Battery Charger is operating, communication with ACRs isolates batteries so the proper charge is applied to all batteries.



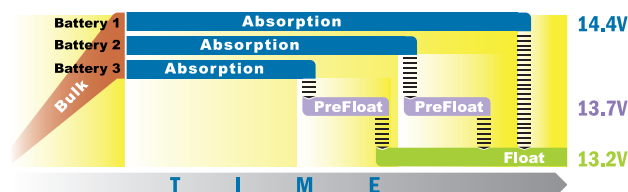
Four Stage Battery Charging with PreFloat Explained

Bulk charges batteries to 75-80% of full charge.

Absorption slowly completes remaining charge to 100%.

PreFloat moves each battery individually from Absorption to PreFloat, based on the need of each battery. This prevents overcharging and damage to the batteries. Up to 0.5V difference between Absorption and PreFloat voltages can be achieved.

Float maintains battery charge.

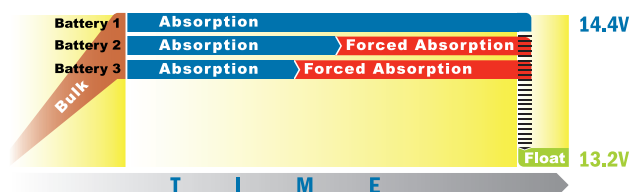


Example of Flooded Lead Acid Battery

Battery Equalization Mode: User selected battery equalizing provides advanced battery conditioning, revitalizing wet acid batteries.

Conventional Battery Charging

Conventional battery chargers move all batteries from Absorption to the Float stage simultaneously with no ability to adjust for individual battery requirements.



Example of Flooded Lead Acid Battery

Forced Absorption: A period when batteries are potentially over charged.

P12 Battery Charger LED Remote

Indicates battery charger stage and alerts and controls basic battery charger functions.

LED Indicators

- Charging LED- Quick check for green light confirms charging
- Charge Stage- Displays charging stage
- Equalize LED- Indicates the charger is currently in equalization mode
- Fan Mode- Indicates charger's internal fan mode
- Charge Output- Displays the percentage of output current for each battery. Will also indicate maximum output setting when maximum output is adjusted to accommodate for AC source limitations.
- Alert- Icon LEDs provide warning and alert status for quick diagnostics

Four Control Buttons

- Fan- User adjustable settings
- Dim/ Alarm- Provides adjustment to brightness of LEDs on display as well as Silence function for alarms.
- Output- User adjustable charger output when AC source limitations exist that require lowering the AC current draw.
- Power- Places P12 Battery Charger into standby mode

Part N°	Description	Voltage
7520	P12 Battery Charger LED Remote	12V DC
1521	360 Panel P12 Battery Charger LED Remote	12V DC



1521
360 Panel
P12 Battery Charger LED Remote

Dimensions (WxH):

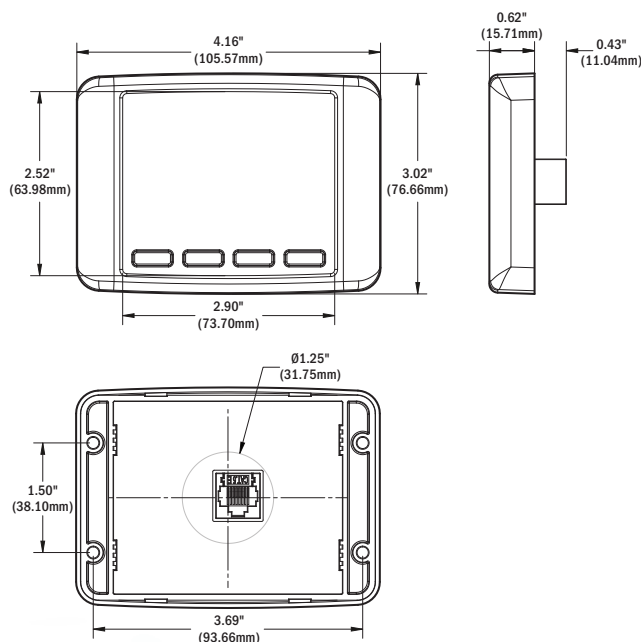
4.88 x 4.75 in (123.83 x 120.65 mm)



Scan for
additional
product
information



7520



Mounting Options



360 Panel



Front

Related Products



P12 Battery Charger
p. 8-9

DC

DeckHand Dimmers

Digitally controls dimming of non-regulated LED, incandescent, and halogen lights



Scan for additional product information

Features

- Illuminated exit with adjustable time delay
- Supports multiple switch locations
- Memory for last dimmer setting
- Bulb saver prevents excessive bulb aging while boat's batteries are being charged
- Provides continuous voltage control from 0 to 100% of input voltage
- Offset mounting tabs allow dimmers to be mounted close together
- Retail package includes momentary (ON)-OFF-(ON) switch 8216 (p. 60)

Specifications

V _n Nominal Voltage	See table
Operating Range	See table
Maximum Output Current	See table
Maximum Parasitic Current	<2mA
Temperature Rating	-40°C to 85°C

Regulatory

CE marked

Meets ISO 8846 and SAE J1171 external ignition protection requirements

Part N°	Im _{xo} Amperage Maximum Output	V _n Nominal Voltage	Operating Range
7506	6 Amps	12V DC	9V to 16V
7504	6 Amps	24V DC	18V to 32V
7507	12 Amps	12V DC	9V to 16V
7509	12 Amps	24V DC	18V to 32V
7508	25 Amps	12V DC	9V to 16V

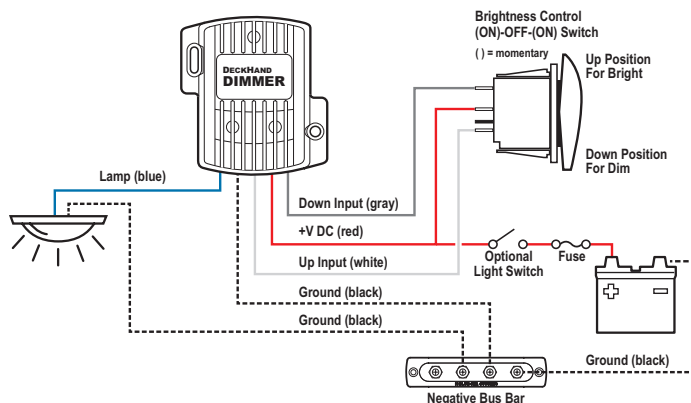
Illuminated Exit Explained

Illuminated exit setting allows boaters to safely disembark before the lights automatically turn off.

Using the illuminated exit mode

One minute delay: Hold the switch in up position (bright) for 2 seconds, lights will flash. Release switch after first flash and the lights will remain on for 1 minute.

Two to five minute delay: Hold the switch in up position (bright) for 1-4 seconds after the first flash. Release the switch after 2 to 5 flashes. The lights will remain on for 1 minute for each flash up to a maximum of 5 minutes.



Related Products



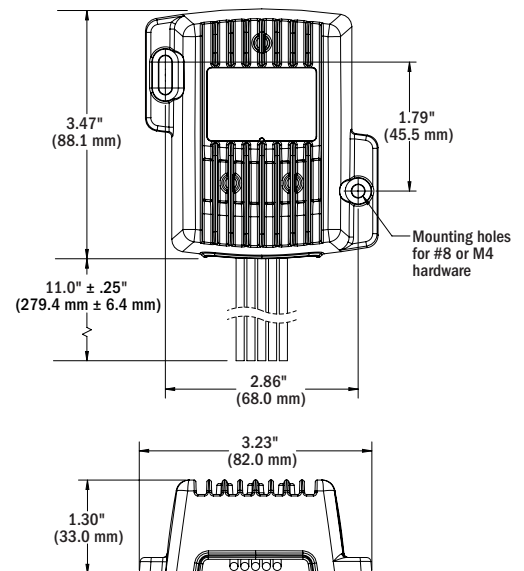
Water Resistant Contura Dimmer Switches
p. 60



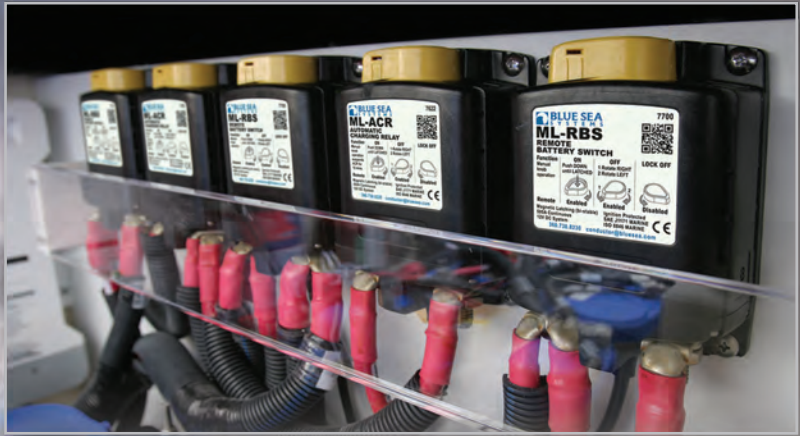
7508



8216 (included in retail package)
Pole/Throw: SPDT
Action: (ON)-OFF-(ON)



Example of nested DeckHand Dimmers



Boston Whaler manages three outboards and three battery banks on the 370 Outrage with Blue Sea Systems ML-Automatic Charging Relays and ML-Remote Battery Switches.



BATTERY MANAGEMENT

Battery management is central to safe operation of a boat or vehicle. A battery switch is required by ABYC in every boat with a battery over 800 Cold Cranking Amps (CCA). This requirement exists so the potentially destructive energy in the batteries can be isolated in the event of a fire.

With involvement on the American Boat and Yacht Council (ABYC) Electrical Component Project Committee, Blue Sea Systems is close to the source of standards for battery switches. The company's participation in the process means quick response when standards and needs of boaters change.

In addition to the broadest selection of industry leading manual battery switches, Blue Sea Systems also manufactures Magnetic Latching (ML) Remote Battery Switches and Automatic Charging Relays (ACRs) to provide control of large battery banks with the push of a button from any location aboard the boat.

The new **m-LVD** Low Voltage Disconnect was developed for boats and vehicles with a single battery. The **m-LVD** saves battery power for starting the engine, reducing the risk of being stranded with a dead battery. When the **m-LVD** is installed between the battery and a non-essential load, such as a stereo or amplifier, the **m-LVD** will cut the power to the stereo before the battery voltage drops too low to start the engine.

SECTION INDEX

MANUAL BATTERY SWITCHES

M-Series	15
C-Series	16
HD-Series	17
Manual Battery Switch Comparison	18-19

BATTERY MANAGEMENT PANELS

Dual Battery Bank	20
Triple Battery Bank	20

SOLENOID SWITCHES

L-Series	21
ML-Series	21

REMOTE BATTERY SWITCHES

ML-Series	22
-----------	----


LOW VOLTAGE DISCONNECT

m-LVD	23
-------	----

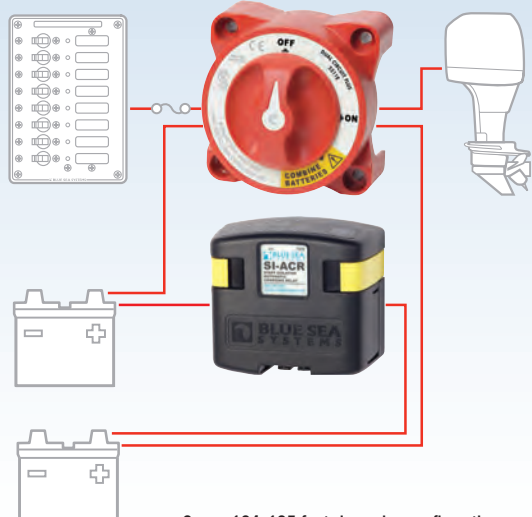
AUTOMATIC CHARGING RELAYS

m-ACR	25
SI-ACR	25
Add-A-Battery Kits	26
ML-Series ACR	28
BatteryLink™ ACR	27
ACR Comparison	29
Remote Battery Management Comparison	30-31

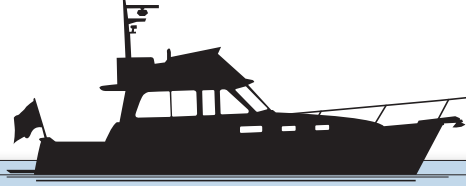
SUBSYSTEMS



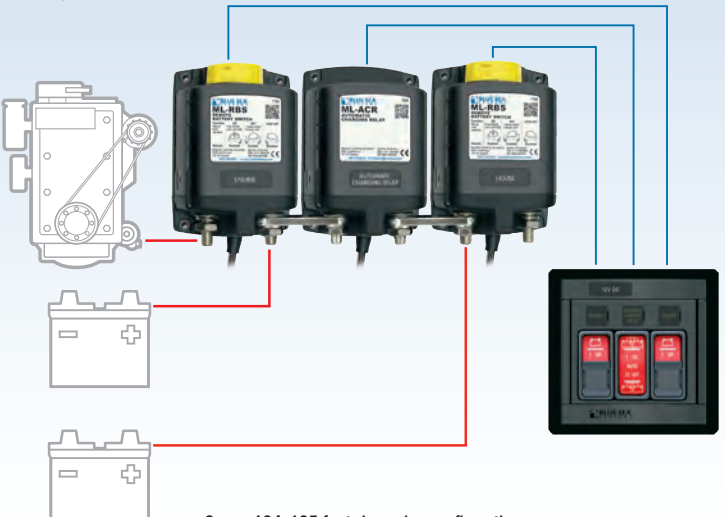
Automatically combines batteries during charging, isolates batteries when discharging and when starting engines. The Dual Circuit Plus™ Battery Switch simplifies the switching of two batteries to OFF or ON while still providing battery isolation between the engine and auxiliary battery. The Combine function can be used to parallel the batteries in the event of a low engine battery.



See p. 124-125 for twin engine configurations



The ML-ACR (Automatic Charging Relay) and ML-RBS (Remote Battery Switch), when paired, offer complete battery management of large battery banks with the push of a button. In addition to automatically sharing the charge from an engine's alternator between the start and auxiliary battery, the ML-ACR control switch provides momentary battery combining to assist with starting in the event of a low engine battery. Multiple remote battery switches can be easily connected to the ML-ACR with the optional Paralleling Link Bus for a complete remote battery management Subsystem.



See p. 124-125 for twin engine configurations

Manual Battery Switches

Manual Battery Switches Explained

Purpose

Battery switches isolate the potentially destructive energy in the battery banks when the boat is not in use or during emergencies.

ABYC E-11.6.1.2.1: 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 or 100 Ah if CCA is unavailable.

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 to the boater using a switch in the engine starting circuit where current durations may be 10-60 seconds. For this reason, Blue Sea Systems uses additional testing, consisting of a high amperage load during a cranking period of 10 seconds. An additional 60-second rating, representative of the load imposed on a battery switch in the starting circuit under very difficult starting conditions, is also provided. These 10 and 60 second ratings are in addition to the testing done to UL 1107.

When determining the proper size battery switch, consult your engine manufacturer for the amperage requirements of your engine starting motor.

Common Features of Manual Battery Switches



- Case design offers flexible mounting options
- Meets American Boat and Yacht Council (ABYC) requirements

Regulatory

CE marked, ISO 8846

UL Listed

Meets UL 1500 and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

Terminal Studs

- Tin-plated copper for maximum conductivity and corrosion resistance
- One-piece design never loosens over time
- 7/8" (22 mm) length accepts multiple cable terminals

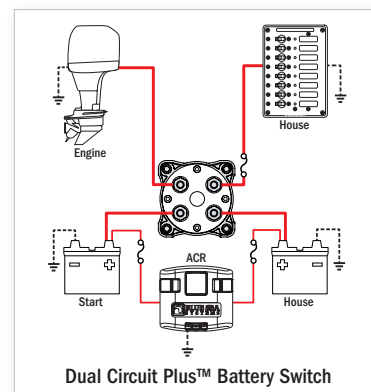


Terminal Stud Cross Section

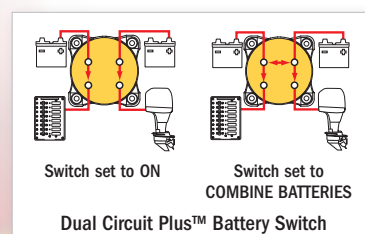
Blue Sea Systems one-piece stud design never loosens over time



For a selection of wiring schematics for 1-4 battery banks, see pages 124-125



For the complete list of battery switch operational diagrams, see pages 18-19



CENTER ENGINE
& GENERATOR



M-Series Battery Switches

300 Amps continuous rating for outboards and small gasoline or diesel engines

Features

- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Studs accept 3/8" (M10) ring terminals
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- 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
- 6 Circuit label set included (not included with 6005 and 6005200)
- Circuit Identification Label Kit available 7902 - sold separately (p. 117)
- Removable key - 6005, 6005200; removable knob - all others

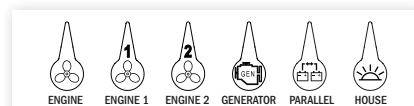
Specifications

	6005, 6006 6005200 6006200	6007 6007200	6010, 6011 6010200 6011200
I10 Cranking Rating: 10 sec.	1,500A	1,500A	1,000A per circuit
I60 Cranking Rating: 1 min.	775A	775A	650A per circuit
I300 Intermittent Rating: 5 min.	500A	500A	450A per circuit
Ic Continuous Rating	300A	300A	300A per circuit
Vmxo Voltage Max. Operating	48V DC	32V DC	32V DC

Regulatory

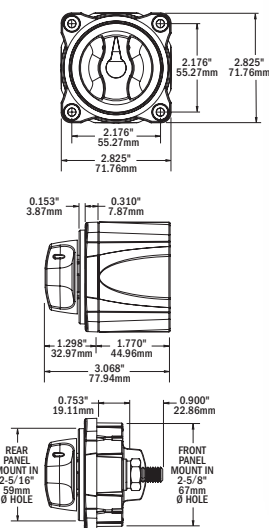
CE marked, ISO 8846, UL Listed - UL 1107 electric power switches
Meets American Boat and Yacht Council (ABYC) requirements
Meets UL 1500 and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

For the full list of specifications see pages 18–19



6 Circuit Label Set (Included)

Part N°	Description	Color
6005	Single Circuit ON-OFF with Key	Red
6005200	Single Circuit ON-OFF with Key	Black
6006	Single Circuit ON-OFF	Red
6006200	Single Circuit ON-OFF	Black
6007	Selector 4 Position	Red
6007200	Selector 4 Position	Black
6010	Dual Circuit™	Red
6010200	Dual Circuit™	Black
6011	Dual Circuit Plus™	Red
6011200	Dual Circuit Plus™	Black
7900	Removable key	Red
7900200	Removable key	Black
7901	Removable knob	Red
7901200	Removable knob	Black
9159	Paralleling link bus (2 pack)	-
1139	360 Panel Battery Switch Module	-



Single Circuit ON-OFF

Switches a single battery to a single load group



6005



6006

Selector 4 Position

Switches isolated battery banks to all loads or combines battery banks to all loads



6007

Mounting Options



Dual Circuit™

Simultaneously switches two isolated battery banks or circuits. May be used to switch the positive and negative conductors for required applications.



6010

WARNING

The positive and negative conductors should not be attached to the same battery switch. The only exceptions are the Dual Circuit Battery Switches, PN 6010 and 5510E. Since these models have electrically isolated circuits and do not include a combine feature, they can provide disconnect to the positive and negative conductors simultaneously.

Dual Circuit Plus™

Simultaneously switches two isolated battery banks or combines battery banks to all loads. CAN NOT be used to switch positive and negative conductors because of the combine feature.



6011

M-Series Battery Switch Mounting Panel



1139 (switch not included)

Dimensions (WxH):

4.88 x 4.75 in (123.83 x 120.65 mm)

- 360 Panel System
- Accepts the M-Series Battery Switch, M-ACR, or M-LVD

Related Products



Removable Key
see table



Removable Knob
see table



Paralleling Link Bus
see table



M-LVD
p. 23



M-ACR
p. 25



Mini Add-A-Battery
p. 26



Circuit Identification
Label Kit p. 117

DC e-Series Battery Switches

350 Amps continuous rating for inboard gasoline or diesel engines

Features

- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Accepts up to 4/0 AWG (120 mm²) battery cables
- Studs accept 3/8" (M10) ring terminals
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- Fits most Perko and Guest low amperage battery switch hole patterns
- Case design allows surface or rear mounting options
- Tactile indicator conveys knob position by feel
- Icon Circuit Identification Label Kit available 7902 - sold separately (p. 117)

Specifications	9003e	9001e, 9002e	5510e
	9004e	11001	5511e
I10 Cranking Rating: 10 sec.	2,000A	2,000A	1,000A per circuit
I60 Cranking Rating: 1 min.	1,000A	1,000A	750A per circuit
I300 Intermittent Rating: 5 min.	600A	600A	525A per circuit
Ic Continuous Rating	350A	350A	350A per circuit
Vmxo Voltage Max. Operating	48V DC	32V DC	32V DC

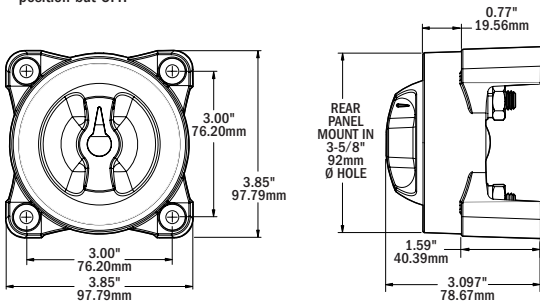
Regulatory

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
IP66—protected against powerful water jets (see inside back cover)

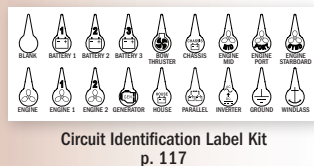
For the full list of specifications, see pages 18–19

Part N°	Description	AFD*
9003e	Single Circuit ON-OFF	-
9004e	Single Circuit ON-OFF	Yes
11001	Selector 3 Position	Yes
9001e	Selector 4 Position	-
9002e	Selector 4 Position	Yes
5510e	Dual Circuit™	-
5511e	Dual Circuit Plus™	-

* Includes Alternator Field Disconnect (AFD) which 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.



Related Products



Single Circuit ON-OFF

Switches a single battery to a single load group



9003e, 9004e*

Selector 3 Position

Switches isolated battery banks to all loads



11001*

Selector 4 Position

Switches isolated battery banks to all loads or combines battery banks to all loads



9001e, 9002e*

Dual Circuit™

Simultaneously switches two isolated battery banks or circuits. May be used to switch the positive and negative conductors for required applications.



5510e

WARNING

The positive and negative conductors should not be attached to the same battery switch. The only exceptions are the Dual Circuit Battery Switches, PN 6010 and 5510e. Since these models have electrically isolated circuits and do not include a combine feature, they can provide disconnect to the positive and negative conductors simultaneously.

Dual Circuit Plus™

Simultaneously switches two isolated battery banks or combines battery banks to all loads. CAN NOT be used to switch positive and negative conductors because of the combine feature.

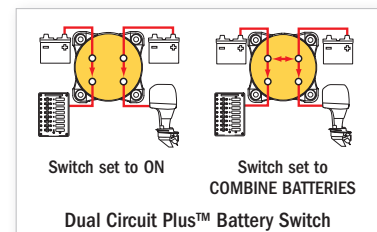


5511e

Mounting Options



For the complete list of battery switch operational diagrams, see pages 18–19



DC

HD-Series Battery Switches

Up to 600 Amps continuous rating for large diesel engines

Features

- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Accepts up to 4/0 AWG (120 mm²) battery cables
- Studs accept 1/2" (M12) ring terminals
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Blue Sea Systems one-piece terminal stud design never loosens over time
- Fits most Perko and Guest low amperage battery switch hole patterns
- Case design allows surface or rear mounting options
- Tactile indicator conveys knob position by feel
- Icon Circuit Identification Label Kit available 7902 - sold separately (p. 117)

Specifications

	3000, 3001	3002, 3003, 11003
I10 Cranking Rating: 10 sec.	2,750A	2,750A
I60 Cranking Rating: 1 min.	1,325A	1,150A
I300 Intermittent Rating: 5 min.	900A	700A
Ic Continuous Rating	600A	500A
Vmxo Voltage Max. Operating	32V DC	32V DC

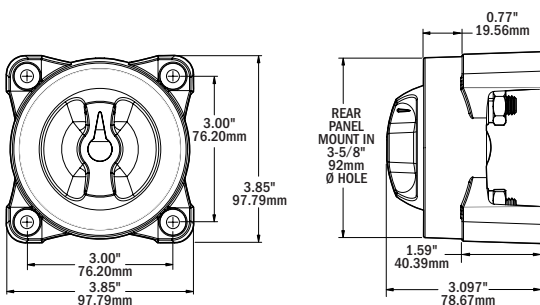
Regulatory

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
IP66—protected against powerful water jets (see inside back cover)

For the full list of specifications, see pages 18-19

Part N°	Description	AFD*
3000	Single Circuit ON-OFF	-
3001	Single Circuit ON-OFF	Yes
11003	Selector 3 Position	Yes
3002	Selector 4 Position	-
3003	Selector 4 Position	Yes

* Includes Alternator Field Disconnect (AFD) which 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.



Related Products



Circuit Identification Label Kit
p. 117

Single Circuit ON-OFF

Switches a single battery to a single load group



3000, 3001*

Selector 3 Position

Switches isolated battery banks to all loads



11003*

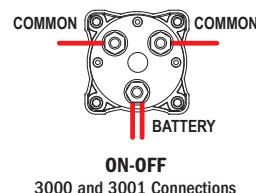
Selector 4 Position

Switches isolated battery banks to all loads or combines battery banks to all loads

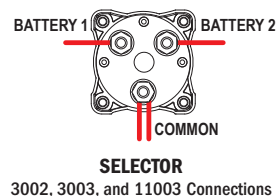


3002, 3003*

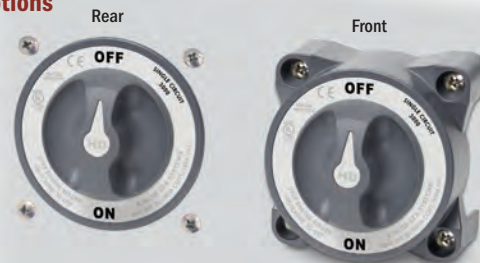
Cable Quantity to Meet Ratings



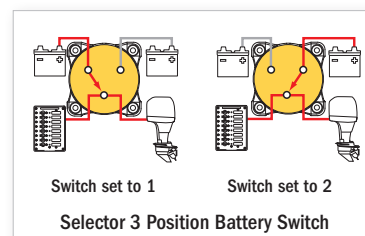
Cable Quantity to Meet Ratings











Mounting Options



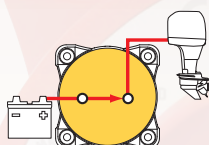
For the complete list of battery switch operational diagrams, see pages 18-19



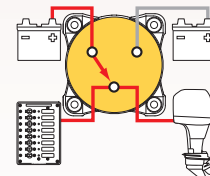
Specifications subject to change. See bluesea.com for current information.

Switch Type	Single Circuit ON-OFF						Selector 3 Position	
Function	Switches a single battery to a single load group						Switches isolated battery banks to all loads	
Switch Family	M-Series	M-Series	e-Series	e-Series	HD-Series	HD-Series	e-Series	HD-Series
Part N°								
Battery Inputs	1	1	1	1	1	1	2	2
Switch Positions	2	2	2	2	2	2	3	3
Battery Combine	-	-	-	-	-	-	-	-
Alternator Field Disconnect*	-	-	-	Yes*	-	Yes*	Yes*	Yes*
Make Before Break Contact Design	-	-	-	-	-	-	-	-
I ₁₀ Cranking Rating (10 sec.)	1,500A	1,500A	2,000A	2,000A	2,750A	2,750A	2,000A	2,750A
I ₆₀ Cranking Rating (1 min.)	775A	775A	1,000A	1,000A	1,325A	1,325A	1,000A	1,150A
I ₃₀₀ Intermittent Rating (5 min.)	500A	500A	600A	600A	900A	900A	600A	700A
I _c Continuous Rating	300A	300A	350A	350A	600A	600A	350A	500A
V _{mxo} Voltage Maximum Operating	48V DC	48V DC	48V DC	48V DC	32V DC	32V DC	32V DC	32V DC
Width	2.83" (72 mm)	2.83" (72 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)
Height	2.83" (72 mm)	2.83" (72 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)
Mounting Centers	2.18" (55 mm)	2.18" (55 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)
Mounting	#10 (M5) Screws	#10 (M5) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws
Terminal Stud Size	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	1/2" (M12)	1/2" (M12)	3/8"-16 (M10)	1/2" (M12)
Terminal Stud Length	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)
Maximum Terminal Stud Torque	120 in-lb (13.56 N-m)	120 in-lb (13.56 N-m)	140 in-lb (15.82 N-m)	140 in-lb (15.82 N-m)	220 in-lb (24.86 N-m)	220 in-lb (24.86 N-m)	140 in-lb (15.82 N-m)	220 in-lb (24.86 N-m)
Terminal Stud Material	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper
Cable Size to Meet Ratings ‡	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)
Cable Clearance for 4/0 Cables	1.12" (28.4 mm)	1.12" (28.4 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)
Ignition Protected	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171
Ingress Protected	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66

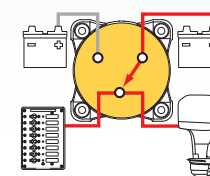
Operation Diagrams



Switch set to ON












Switch set to 1

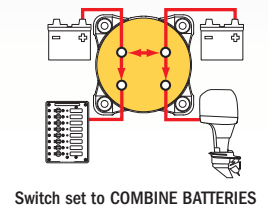
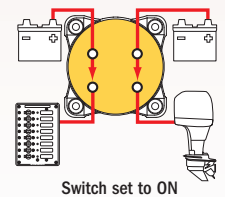
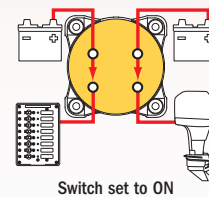
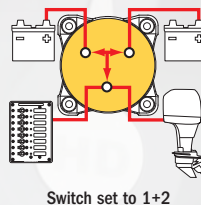
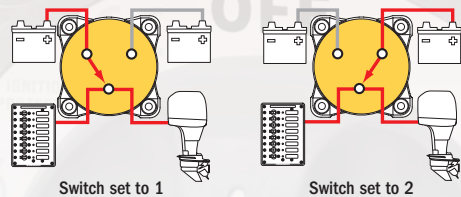


Switch set to 2

* 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.

‡ Reducing cable size will reduce current rating

Selector 4 Position					Dual Circuit™		Dual Circuit Plus™	
Switches isolated battery banks to all loads or combines battery banks to all loads					Simultaneously switches two isolated battery banks		Simultaneously switches two isolated battery banks or combines battery banks to all loads	
M-Series	e-Series	e-Series	HD-Series	HD-Series	M-Series	e-Series	M-Series	e-Series
								
6007	9001e	9002e	3002	3003	6010	5510e	6011	5511e
2	2	2	2	2	2	2	2	2
4	4	4	4	4	2	2	3	3
Yes	Yes	Yes	Yes	Yes	-	-	Yes	Yes
-	-	Yes*	-	Yes*	-	-	-	-
Yes	Yes	Yes	Yes	Yes	-	-	Yes	Yes
1,500A	2,000A	2,000A	2,750A	2,750A	1,000A per circuit	1,000A per circuit	1,000A per circuit	1,000A per circuit
775A	1,000A	1,000A	1,150A	1,150A	650A per circuit	750A per circuit	650A per circuit	750A per circuit
500A	600A	600A	700A	700A	450A per circuit	525A per circuit	450A per circuit	525A per circuit
300A	350A	350A	500A	500A	300A per circuit	350A per circuit	300A per circuit	350A per circuit
32V DC	32V DC	32V DC	32V DC	32V DC	32V DC	32V DC	32V DC	32V DC
2.83" (72 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	2.83" (72 mm)	3.85" (98 mm)	2.83" (72 mm)	3.85" (98 mm)
2.83" (72 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	3.85" (98 mm)	2.83" (72 mm)	3.85" (98 mm)	2.83" (72 mm)	3.85" (98 mm)
2.18" (55 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	3.00" (76 mm)	2.18" (55 mm)	3.00" (76 mm)	2.18" (55 mm)	3.00" (76 mm)
#10 (M5) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws	1/4" (M6) Screws	#10 (M5) Screws	1/4" (M6) Screws	#10 (M5) Screws	1/4" (M6) Screws
3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	1/2" (M12)	1/2" (M12)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)
7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)
120 in-lb (13.56 N-m)	140 in-lb (15.82 N-m)	140 in-lb (15.82 N-m)	220 in-lb (24.86 N-m)	220 in-lb (24.86 N-m)	120 in-lb (13.56 N-m)	140 in-lb (15.82 N-m)	120 in-lb (13.56 N-m)	140 in-lb (15.82 N-m)
Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper	Tin-plated copper
4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)	4/0 AWG ‡ (120 mm²)
1.12" (28.4 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.10" (27.9 mm)	1.12" (28.4 mm)	1.10" (27.9 mm)	1.12" (28.4 mm)	1.10" (27.9 mm)
UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171	UL 1500 SAE J1171
IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66	IP66



DC

Battery Bank Management Panels

Easily manage multiple battery bank systems

Features

- Isolates the Engine circuit from the House circuit
- Allows emergency cross connect between isolated battery banks
- Protects electronics from sags and spikes caused by engine cranking
- Provides 24-hour circuit protection (1408, 8686, 8690, 8689, and 8693)

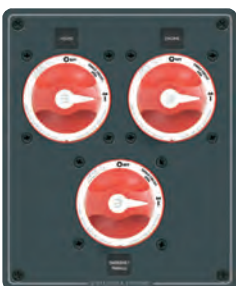
Component References

- m-Series Battery Switches (p. 15)
- C-Series Battery Switches (p. 16)
- C-Series Flat Rocker Circuit Breakers (p. 53)
- Push Button Reset-Only Circuit Breakers (p. 47)
- Square Format Label Set 4218 included (p. 117)

Regulatory

Meets UL 1500 and SAE J1171 external ignition protection requirements

Part N°	Vmxo Voltage Max. Operating	Width in (mm)	Height in (mm)	Depth in (mm)
8280	48V DC	6.25 (158.75)	7.50 (190.50)	2.25 (57.15)
8080	32V DC	5.25 (133.35)	6.50 (165.10)	3.00 (76.20)
1408	12V DC	4.88 (123.83)	7.75 (196.85)	3.50 (88.90)
8686	24V DC	4.50 (114.30)	7.50 (190.50)	3.25 (82.55)
8690	24V DC	5.25 (133.35)	8.00 (203.20)	3.50 (88.90)
8689	24V DC	7.25 (184.15)	8.00 (203.20)	3.25 (82.55)
8693	24V DC	10.50 (266.70)	8.00 (203.20)	3.50 (88.90)



8280

- Traditional Metal Panel
- Dual Battery Bank Management Panel
- 3 Battery Switches: m-Series, 6006



8080

- Traditional Metal Panel
- Dual Battery Bank Management Panel
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 2 Battery Switches: m-Series, 6006



1408

- 360 Panel System
- Dual Battery Bank Management Panel
- Backlit circuit labels
- ON indicating LEDs
- 3 Unswitched 24-hour circuits
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 3 Push Button Reset-Only Circuit Breakers, (BRANCH, 15A)
- Battery Switch: m-Series, 6011200



8686

- Traditional Metal Panel
- Dual Battery Bank Management Panel
- 2 Unswitched 24-hour circuits
- ON indicating LEDs
- Spare aperture for additional Flat Rocker or Push Button Reset-Only Circuit Breakers
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 2 Push Button Reset-Only Circuit Breakers (BRANCH 15A)
- Battery Switch: m-Series, 6011
- 24-hour Round Label Set 4140



8690

- Traditional Metal Panel
- Dual Battery Bank Management Panel
- 2 Unswitched 24-hour circuits
- ON indicating LEDs
- Spare apertures for additional Flat Rocker or Push Button Reset-Only Circuit Breakers
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 2 Push Button Reset-Only Circuit Breakers (BRANCH 15A)
- Battery Switch: C-Series, 5511C
- 24-hour Round Label Set 4140



8689

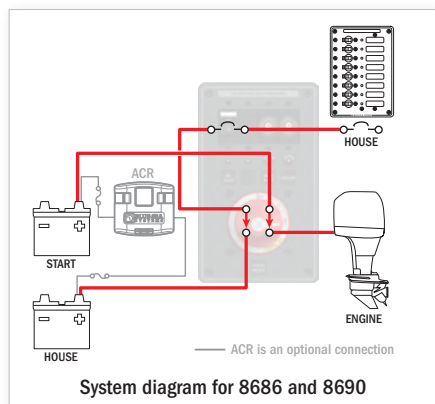
- Traditional Metal Panel
- Triple Battery Bank Management Panel
- 3 Unswitched 24-hour circuits
- ON indicating LEDs
- Spare apertures for additional Flat Rocker or Push Button Reset-Only Circuit Breakers
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 3 Push Button Reset-Only Circuit Breakers (BRANCH 15A)
- 2 Battery Switches: m-Series, 6011
- 24-hour Round Label Set 4140



8693

- Traditional Metal Panel
- Triple Battery Bank Management Panel
- 4 Unswitched 24-hour circuits
- ON indicating LEDs
- Spare apertures for additional Flat Rocker or Push Button Reset-Only Circuit Breakers
- 1 C-Series Flat Rocker Circuit Breaker (MAIN 100A)
- 4 Push Button Reset-Only Circuit Breakers (BRANCH 15A)
- 2 Battery Switches: C-Series, 5511C
- 24-hour Round Label Set 4140

For the complete selection of Battery Management Panel system diagrams, go to www.bluesea.com



Related Products



m-ACR
p. 25



SI-ACR
p. 25



ML-Series ACR
p. 28

L-Series Solenoid Switch

450 Amp compact solenoid offers remote switching for applications with limited space where manual control is not required

Features

- Hermetically sealed contacts
- Activated by an ON-OFF switch mounted remotely (p. 63)
- Integrated coil control minimizes heating and amperage draw
- Mount in a dry location



9012

Specifications

Voltage	12/24V DC
Main Power Contacts	
I10 Cranking Rating: 10 sec.	See table
I60 Cranking Rating: 1 min.	See table
I300 Intermittent Rating: 5 min.	See table
Ic Continuous Rating	See table
Vm_{co} Voltage Max. Operating	60V DC
Cs Switching Cycles	1,000,000 Cycles
Terminal Stud Size	5/16" (M8)
Contact Form	SPST-NO
Coil Circuit	
Input Voltage	9-36V DC
I_{oc} (inrush, 130ms) Amperage Operating Current	3.80A
I_{oc} (holding) Amperage Operating Current	0.13A @ 12V DC 0.07A @ 24V DC

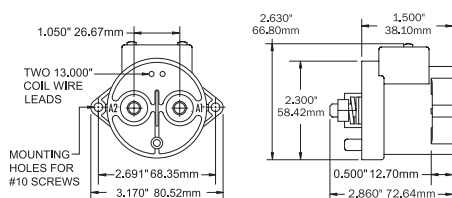
Regulatory

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

Part N°	Voltage
9012	12 / 24V DC

Wire Size and Current Ratings

Wire Size	I60 Cranking 1 min.	I300 Intermittent 5 min.	Ic Continuous (UL 1107)
1/0	500A	275A	250A
2/0	550A	400A	300A
2x (2/0)	850A	600A	450A



Solenoid vs Remote Battery Switch Explained

Solenoid- high-amp electronic switch with no manual control, for circuits where a manual battery disconnect is offered elsewhere in the circuit.

Remote Battery Switch- a solenoid or relay with a manual control switch allowing for switching if control circuit is compromised and for service lockout.

Related Product



ON-OFF Switch
p. 63

ML-Series Solenoid Switches

500 Amp magnetic latching (bi-stable) solenoid provides high-amp switching under load where manual control is not required



7703



2145 Remote Control Contura Switch included in retail package of 7701 and 7703
Action: SPDT (ON)-OFF-(ON)



Deutsch DTM Cable End provided on bulk units. Other connector plugs are available for high volume OEM applications

Wire Color	Circuit Function
Red	+V DC, 24 Hour
Black	Ground
Yellow	-V DC, LED Output
Brown	+V DC, To Close
Orange	+V DC, To Open

Features

- LED output to remotely indicate switch state - requires optional LED (p. 116)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification
- Silver alloy contacts provide high reliability for switching live loads
- Retail packaging includes Remote Control Contura Switch 2145 (p. 61)

Specifications

I10 Cranking Rating: 10 sec.	See table
I60 Cranking Rating: 1 min.	See table
I300 Intermittent Rating: 5 min.	See table
Ic Continuous Rating	See table
Vm_{co} Voltage Maximum Operating (contacts)	32V DC
Vm_{co} Voltage Maximum Operating (coil)	16V DC (12V DC Models), 32V DC (24V DC Models)
Cs Switching Cycles	100,000 Cycles
I_{oc} Amperage Operating Current when changing state	<7A (12V DC Models), <4A (24V DC Models)
Remote Control Switch Current	<100 mA
Live Current Switching	300A @ 12V DC—10,000 Cycles

Regulatory

CE marked, Meets ISO 8846 and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

Part N°	Nominal Voltage	Cable End	Packaged
7701	12V DC	Stripped Wire	Retail
7701100B	12V DC	Deutsch DTM	Bulk
7703	24V DC	Stripped Wire	Retail
7703100B	24V DC	Deutsch DTM	Bulk

See page 22 for dimensioned drawings

Wire Size and Current Ratings

Wire Size	I10 Cranking 10 sec.	I60 Cranking 1 min.	I300 Intermittent 5 min.	Ic Continuous (UL 1107)
2/0	2,000A	750A	400A	225A
4/0	2,200A	750A	400A	300A
2x (4/0)	2,500A	1,100A	700A	500A

Related Products



Paralleling Link Bus
p. 28



Remote Control Contura Switches
p. 61



LEDs
p. 116

ML-Series Remote Battery Switches



Scan for
additional
product
information

500 Amp magnetic latching (bi-stable) switch provides high-amp switching under load, manually or from remote locations

Features

- Manual override knob provides an added level of safety allowing control with or without power and offering LOCKED OFF capability for servicing
- LED output to remotely indicate switch state - requires optional LED (p. 116)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification
- Silver alloy contacts provide high reliability for switching live loads
- Retail packaging includes Remote Control Contura Switch (p. 61)

Auto Releasing ML-Series Remote Battery Switch with SPST Switching

Provides 500A switching and features of current ML Remote Battery Switches, but can be controlled with SPST or SPDT switch for applications where a normally open relay is desired (7712, 7712100B, 7714, and 7714100B).

Specifications

	7700, 7700100B 7702, 7702100B	7712, 7712100B 7714, 7714100B
I10 Cranking Rating: 10 sec.	See table	See table
I60 Cranking Rating: 1 min.	See table	See table
I300 Intermittent Rating: 5 min.	See table	See table
Ic Continuous Rating	See table	See table
Vmxo Voltage Max. Operating (contacts)	32V DC	32V DC
Vmxo Voltage Max. Operating (coil)	See table	See table
Ioc Amperage Operating Current	See table	See table
Cs Switching Cycles	100,000 Cycles	100,000 Cycles
Cs Live Current Switching	300A @12V DC	300A @12V DC

Regulatory

CE marked, Meets ISO 8846 and SAE J1171 external ignition protection requirements

IP66—protected against powerful water jets (see inside back cover)

Wire Size and Current Ratings

Wire Size	I10 Cranking 10 sec.	I60 Cranking 1 min.	I300 Intermittent 5 min.	Ic Continuous (UL 1107)
2/0	2,000A	750A	400A	225A
4/0	2,200A	750A	400A	300A
2x (4/0)	2,500A	1,100A	700A	500A

Part N°	Nominal Voltage	Coil Function	Cable End	Vmxo Voltage Max. Operating (coil)	Ioc Amperage Operating Current when ON	Ioc Amperage Operating Current when OFF	Ioc Amperage Operating Current when Changing State	Remote Control Switch Current	Multi-Station Switching Capability	Master Control Switch Capability	Control Switch Included	Packaged
7700	12V DC	Bi-Stable	Stripped Wire	16V DC	-	-	<7A	<100 mA	Yes	-	2145, SPDT, (ON)-OFF-(ON)	Retail
7700100B	12V DC	Bi-Stable	Deutsch DTM	16V DC	-	-	<7A	<100 mA	Yes	-	-	Bulk
7702	24V DC	Bi-Stable	Stripped Wire	32V DC	-	-	<4A	<100 mA	Yes	-	2145, SPDT, (ON)-OFF-(ON)	Retail
7702100B	24V DC	Bi-Stable	Deutsch DTM	32V DC	-	-	<4A	<100 mA	Yes	-	-	Bulk
7712	12V DC	Auto Releasing	Stripped Wire	16V DC	13mA	8mA	<7A	<10 mA	-	Yes	2155, SPDT, ON-ON*	Retail
7712100B	12V DC	Auto Releasing	Deutsch DTM	16V DC	13mA	8mA	<7A	<10 mA	-	Yes	-	Bulk
7714	24V DC	Auto Releasing	Stripped Wire	32V DC	13mA	8mA	<4A	<10 mA	-	Yes	2155, SPDT, ON-ON*	Retail
7714100B	24V DC	Auto Releasing	Deutsch DTM	32V DC	13mA	8mA	<4A	<10 mA	-	Yes	-	Bulk

* Although a SPST switch may be used if desired, use of a SPDT switch improves immunity to inadvertent switching if the control switch becomes damp.

Related Products



Paralleling Link Bus
p. 28



Remote Control
Contura Switches
p. 61



ML-Series ACR
p. 28



Battery Management Panels
p. 61



LEDs
p. 116



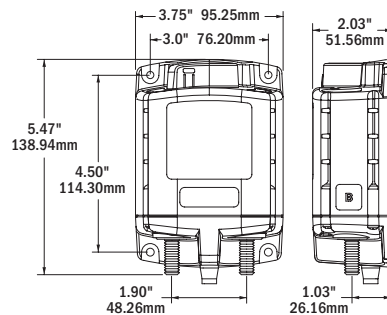
Remote Control
Contura Switch

included in retail
package of 7700, 7702
7712, and 7714



Deutsch DTM Cable End
provided on bulk units.
Other connector plugs
are available for high
volume OEM applications

Wire Color	7700, 7700100B 7702, 7702100B Circuit Function	7712, 7712100B 7714, 7714100B Circuit Function
Red	+V DC, 24 Hour	Control
Black	Ground	Ground
Yellow	-V DC LED Output	-V DC LED Output
Brown	+V DC, To Close	--
Orange	+V DC, To Open	--



DC

M-LVD Low Voltage Disconnect NEW

Senses low battery voltage and disconnects non-critical loads to save power for engine starting



Scan for additional product information



7635



Remote Control Contura Switch included in retail package.

Features

- 65 Amp continuous rating
- 12V DC voltage input
- Faster disconnect at lower battery voltages
- A single press at the remote control switch will delay disconnect
- Load can be manually disconnected using remote control switch
- LED flashing frequency increases as M-LVD approaches disconnect
- Case design allows surface, rear, or front panel mounting options
- Snap-on cover insulates terminal connections
- Integrated LED or optional remote LED indicates status
- 1/4" x .032" male quick connect terminals for ground and control connections

Optional Features

- **Remote LED** indicates status- requires optional LED (p. 116) or Remote Control Contura Switch with Integrated LED (included in retail package)
- **External alarm output** to provide a low voltage warning prior to disconnect - requires alarm

Specifications

I300 Intermittent Rating:	5 min.	115A
Ic Continuous Rating		65A
Nominal Voltage		12V DC
Cable Size to meet current ratings		6 AWG (16mm ²)
Maximum Cable Size		1/0 AWG (50mm ²)
Terminal Stud Size		1/4"-20 (M6)
Terminal Stud Length		7/16" (11mm)

Regulatory

CE marked, ISO 8846

Meets UL SAE J1171 external ignition protection requirements

IP67 - protected against immersion up to 1 meter for 30 minutes

Part N°	Voltage
7635	12V DC

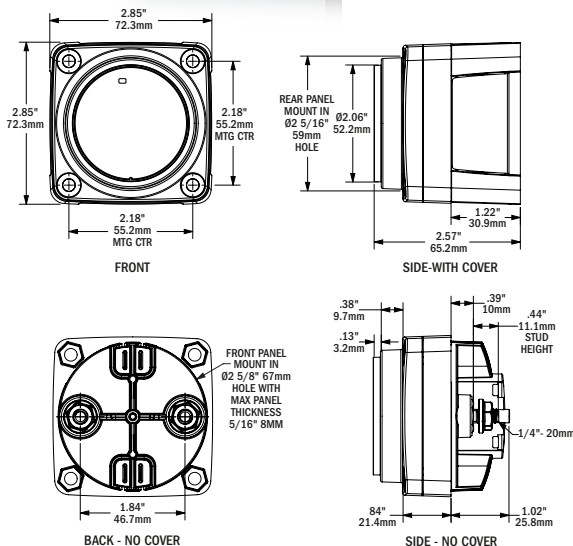
Related Products



M-Series Battery Switch ON-OFF
p. 15



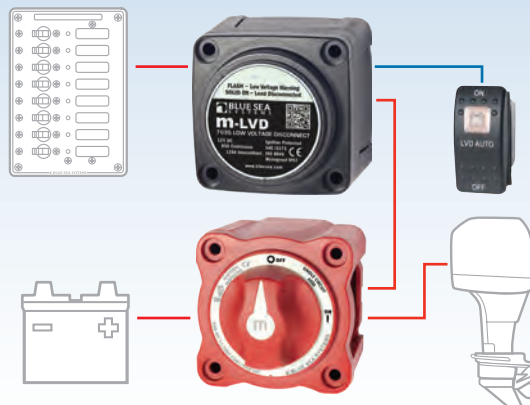
LEDs
p. 116



SUBSYSTEM



For a single battery boat or vehicle, the M-LVD will save power for engine starting. The M-Series ON-OFF Battery Switch provides a disconnect to cut off battery power when the boat is not in use or in the event of a fire.



Automatic Charging Relays

Automatic Charging Relays Explained

In a boat or vehicle with two battery banks, it is useful to be able to charge both banks while underway. Charge management devices allow two battery banks to be charged from a single source, such as an alternator, but keep batteries isolated when not charging. If one battery becomes depleted, there will be a charged bank available for emergency starting.

There are two main types of charge management devices used on boats:

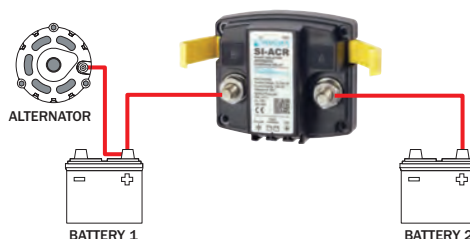
Automatic Charging Relays (ACR) use a relay combined with a voltage sensing circuit. When a charge is being applied to a battery and the voltage rises over 13V DC, the relay closes and combines the two batteries. When the charge is taken away or the load on the battery is greater than the charging input causing the voltage to drop to 12.75V DC, the relay opens and isolates the two batteries.

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

Automatic Charging Relay vs. Battery Isolator

Automatic Charging Relay

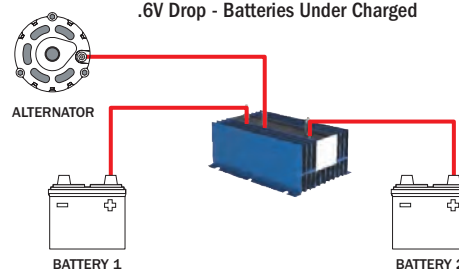
A lower voltage drop replacement for battery isolators
.05V Drop - Batteries Fully Charged



An ACR passes the current from one battery to the other

Battery Isolator

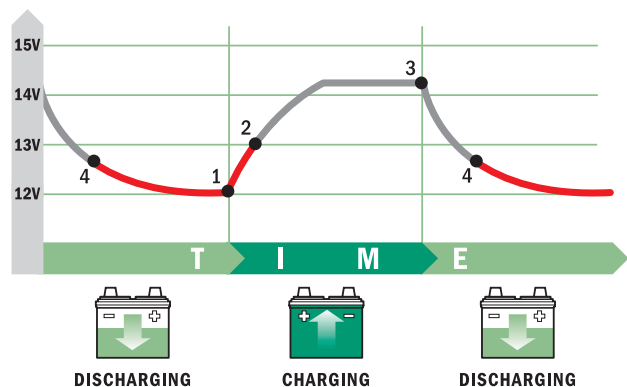
.6V Drop - Batteries Under Charged



An isolator splits the current

Automatic Charging Relay Operation

BATTERY
TERMINAL
VOLTAGE



LEGEND

— ACR OPEN - Batteries are isolated.
— ACR COMBINED - Batteries are connected and are both charging.

1. ACR relay is open and batteries are isolated. Voltage begins to rise slowly after engine starts or battery charger is turned on.
2. When voltage rises to COMBINE voltage 13.5V in this example, ACR relay closes, connecting and charging both batteries.
3. When engine stops or battery charger is turned off, voltage rapidly begins falling.
4. When voltage falls to ISOLATE voltage 12.75 in this example ACR relay opens, isolating batteries while discharging.



Back Cove Yachts installs the SI-ACR as original equipment aboard their yachts, including the Back Cove 34.

DC
M-ACR



Scan for
additional
product
information

Alternators
up to 65A



Automatic Charging Relay with optional Start Isolation

Automatically combines batteries during charging, isolates batteries when discharging and when starting engines



7601



Features

- 65 Amp continuous rating
- 12V/24V DC auto ranging voltage input
- Senses charging on two battery banks
- Case design allows surface, rear, or front panel mounting options
- Snap-on cover insulates terminal connections
- 7/16" (11 mm) stud length
- Integrated LED indicates ACR states
- 1/4" x .032" male quick connect terminals for ground and start isolation

Optional Features

- **Start Isolation** allows temporary isolation of House loads from Engine circuit during engine cranking to protect sensitive electronics from sags and spikes

Specifications

I300 Intermittent Rating: 5 min.	115A
Ic Continuous Rating	65A
Ioc (Combine) Amperage Operating Current	90mA
Ioc (Open) Amperage Operating Current	15mA
Nominal Voltage	12V / 24V DC
Cable Size to meet current ratings	6 AWG (16mm ²)
Maximum Cable Size	1/0 AWG (50mm ²)
Terminal Stud Size	1/4"-20 (M6)
Terminal Stud Length	7/16" (11 mm)
Relay Contact Position	12V DC 24V DC
Combine (30 sec.)	13.6V DC 27.2V DC
(2 min.)	13.0V DC 26.0V DC
Open (10 sec.)	12.35V DC 24.7V DC
(30 sec.)	12.75V DC 25.5V DC
Over Voltage Lockout	16.0V DC --
Under Voltage Lockout	9.5V DC 19.0V DC
Under Voltage Recovery	10.0V DC 20.0V DC

Regulatory

CE marked, ISO 8846

Meets SAE J1171 external ignition protection requirements

IP67 - protected against immersion up to 1 meter for 30 minutes (see inside back cover)

Part N°	Voltage	See page 23 for dimensioned drawings
7601	12V / 24V DC	

Related Products



M-Series Battery Switch
p. 15



Mini Add-A-Battery
p. 26



WeatherDeck® OFF-ON
Toggle Switch p. 62

SI-ACR



Scan for
additional
product
information

Alternators
up to 120A



Automatic Charging Relay with optional Start Isolation

Automatically combines batteries during charging, isolates batteries when discharging and when starting engines



7610



7610 cover off

Features

- 120A continuous rating to support high output alternators
- 12V/24V DC auto ranging voltage input
- Senses charging on two battery banks
- Side and bottom knockouts for cable connections
- Clip-on cover insulates terminal connections
- 7/8" (22 mm) stud length to accept multiple cable terminals
- Integrated LED indicates ACR status
- 1/4" x .032" male quick connect terminals for ground and optional features

Optional Features

- **Start Isolation** allows temporary isolation of House loads from Engine circuit during engine cranking to protect sensitive electronics from sags and spikes
- **Remote LED** remotely indicates ACR states - requires optional LED (p. 116)

Specifications

I300 Intermittent Rating: 5 min.	210A
Ic Continuous Rating	120A
Ioc (Combine) Amperage Operating Current	175mA
Ioc (Open) Amperage Operating Current	15mA
Nominal Voltage	12V / 24V DC
Cable Size to Meet Current Ratings	1 AWG (50mm ²)
Maximum Cable Size	1/0 AWG (50mm ²)
Terminal Stud Size	3/8"-16 (M10)
Relay Contact Position	12V DC 24V DC
Combine (30 sec.)	13.6V DC 27.2V DC
(2 min.)	13.0V DC 26.0V DC
Open (10 sec.)	12.35V DC 24.7V DC
(30 sec.)	12.75V DC 25.5V DC
Over Voltage Lockout	16.0V DC 30.0V DC
Under Voltage Lockout	9.5V DC 19.0V DC
Under Voltage Recovery	10.0V DC 20.0V DC

Regulatory

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

IP67 - protected against immersion up to 1 meter for 30 minutes (see inside back cover)

Part N°	Voltage	See page 27 for dimensioned drawings
7610	12V / 24V DC	

Related Products



E-Series Battery Switch
p. 16



Add-A-Battery
p. 26



WeatherDeck® OFF-ON
Toggle Switch p. 62



LEDs
p. 116

Add-A-Battery Kits



Scan for
additional
product
information

Simplifies switching and automates charging for a complete two battery bank solution for outboard and inboard powered boats

Don't get stranded, Add-A-Battery!

A dead starting battery is a common reason for needing a tow. Don't let it happen to you! Avoid the inconvenience and cost of a tow by adding a second battery to your boat's electrical system.

The Add-A-Battery includes a Dual Circuit Plus™ Battery Switch and an Automatic Charging Relay. These components simplify switching and automate charging, so that all you have to do is turn the battery switch ON when you board and OFF when you leave.

Adding a second battery prevents getting stranded with a dead battery by isolating the start battery from the house loads that can quickly discharge a battery. The Add-A-Battery offers a simple way to control switching with the Dual Circuit Plus™ Battery Switch and automatically share a single source of charging between two batteries with the Automatic Charging Relay.

Part N°	Description	Included Battery Switch PN	Included Automatic Charging Relay PN
7649	65A Mini Add-A-Battery	m-Series, 6011	m-ACR, 7601
7650	120A Add-A-Battery	e-Series, 5511E	SI-ACR, 7610

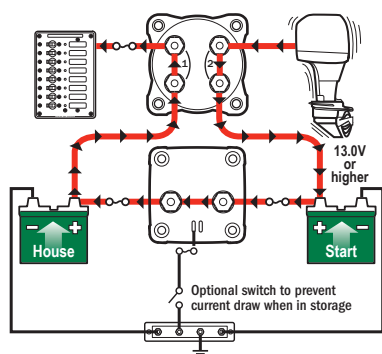
Dual Circuit Plus™ Battery Switch

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

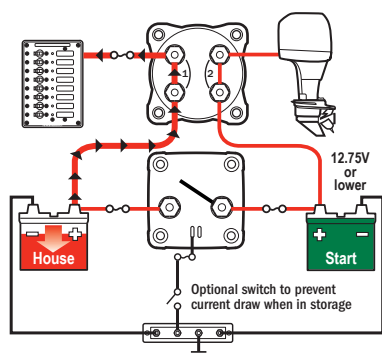
Automatic Charging Relay with optional start isolation

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

Automatic Charging Relays Explained



ENGINE ON
ACR combines
batteries sharing
charge with
House battery



ENGINE OFF
ACR isolates
batteries protecting
the Start battery
from discharge



7649

Related Products



m-Series Battery Switch
p. 15



m-ACR
p. 25



WeatherDeck® OFF-ON
Toggle Switch p. 62



7650

Related Products



e-Series Battery Switch
p. 16



SI-ACR
p. 25



WeatherDeck® OFF-ON
Toggle Switch p. 62



LEDs
p. 116

DC

BatteryLink™ ACR

Automatic Charging Relay

with optional Auxiliary Battery Priority

Automatically shares single source of charge with Auxiliary Battery



Scan for
additional
product
information

Alternators
up to 120A



Alternators
up to 120A



7611



7611 cover off

Features

- 120A continuous rating to support high output alternators
- 12V/24V DC auto ranging voltage input
- Senses charging on two battery banks
- Side and bottom knockouts for cable connections
- Clip-on cover insulates terminal connections
- 7/8" (22 mm) stud length to accept multiple cable terminals
- Integrated LED indicates ACR status
- 1/4" x .032" male quick connect terminals for ground and optional features
- Maximum battery size not to exceed 850 CCA Cold Cranking Amps

Optional Features

- **Optional Auxiliary Battery Priority** connection shares the alternator charge with the Auxiliary battery longer when the engine is running to allow the use of auxiliary loads for an extended period of time
- **Remote LED** remotely indicates ACR states - requires optional LED (p. 116)

Specifications

I300	Intermittent Rating: 5 min.	210A
Ic	Continuous Rating	120A
Ioc	(Combine) Amperage Operating Current	175mA
Ioc	(Open) Amperage Operating Current	15mA
Nominal Voltage		12V / 24V DC
Cable Size to Meet Ratings		1 AWG (50mm ²)
Maximum Cable Size		1/0 AWG (50mm ²)
Terminal Stud Size		3/8"-16 (M10)
Maximum Battery Size		850 CCA
Relay Contact Position		
Combine	(30 sec.)	12V DC 24V DC
	(2 min.)	13.6V DC 27.2V DC
Open Low	(30 sec.)	13.0V DC 26.0V DC
		12.75V DC 25.5V DC
Over Voltage Lockout		16.0V DC --
Auxiliary Priority - Optional Feature		
Open Low	(30 sec.)	12.25V DC 24.5V DC

Regulatory

CE marked, ISO 8846

Meets UL 1500 and SAE J1171 external ignition protection requirements

IP67 - protected against immersion up to 1 meter for 30 minutes

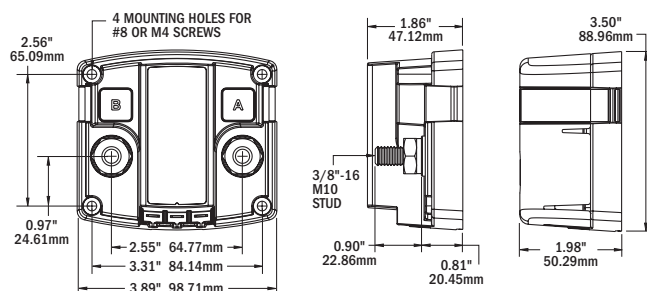
(see inside back cover)

Part N°	Description
7611	BatteryLink™ ACR

Many alternators output under 13V while at lower RPMs. If a vessel spends time trolling or idling at low RPMs, the BatteryLink ACR allows both battery banks to share the alternator charge as long as the engine is running.



Rugged off-road vehicles, including the EarthRoamer XV-LT, rely on Blue Sea Systems electrical products with the Automatic Charging Relay at the heart of the DC system.



Related Products



E-Series Battery Switch
p. 16



WeatherDeck® OFF-ON
Toggle Switch p. 62



LEDs
p. 116

DC

ML-Series Automatic Charging Relay

500 Amp magnetic latching (bi-stable) relay automatically combines batteries during charging and isolates batteries when discharging and when starting engine

Features

- Bi-Stable Magnetic Latching (ML) relay draws very low current in the ON 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
- Manual override knob provides an added level of safety allowing control with or without power and offering LOCKED OFF capability for servicing
- Senses charging on two battery banks
- LED output to remotely indicate switch state - requires optional LED (p. 116) or Remote Control Contura Switch with integrated LED (included in retail package)
- 3/8"-16 tin-plated copper studs for maximum conductivity and corrosion resistance
- 7/8" (22 mm) stud length accepts multiple cable terminals
- Label recesses for circuit identification
- Silver alloy contacts provide high reliability for live switching
- Retail packaging includes Remote Control Contura Switch 2146 (p. 61)

Specifications

I10	Cranking Rating: 10 sec.	See table
I60	Cranking Rating: 1 min.	See table
I300	Intermittent Rating: 5 min.	See table
Ic	Continuous Rating	See table
Ioc	Amperage Operating Current	<7A when changing state, <40 mA continuous
Cs	Switching Cycles	100,000 Cycles
	Live Current Switching	300A @ 12V DC—10,000 Cycles

Relay Contact Position	12V DC	24V DC
Combine (30 sec.)	13.5V DC	27.0V DC
(2 min.)	13.0V DC	26.0V DC
Open (10 sec.)	12.35V DC	24.7V DC
(30 sec.)	12.75V DC	25.5V DC
Over Voltage Lockout	16.2V DC	32.4V DC
Under Voltage Lockout	9.6V DC	19.2V DC
Under Voltage Recovery	10.0V DC	20.0V DC

Regulatory

CE marked, Meets ISO 8846 and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

Wire Size and Current Ratings

Wire Size	I10 Cranking 10 sec.	I60 Cranking 1 min.	I300 Intermittent 5 min.	Ic Continuous (UL 1107)
2/0	2,000A	750A	400A	225A
4/0	2,200A	750A	400A	300A
2x (4/0)	2,500A	1,100A	700A	500A

Part N°	Coil Volts	Cable End	Manual Control	Packaged
7620	12V DC	Stripped Wire	No	Retail
7620100B	12V DC	Deutsch DTM	No	Bulk
7622	12V DC	Stripped Wire	Yes	Retail
7622100B	12V DC	Deutsch DTM	Yes	Bulk
7621	24V DC	Stripped Wire	No	Retail
7621100B	24V DC	Deutsch DTM	No	Bulk
7623	24V DC	Stripped Wire	Yes	Retail
7623100B	24V DC	Deutsch DTM	Yes	Bulk
9160	Paralleling Link Bus			Retail

Related Products



Paralleling Link Bus
p. 28



ML-Series
Remote Battery Switches
p. 22



Remote Control
Contura Switches
p. 61



Battery Management
Panels
p. 61



LEDs
p. 116



Scan for
additional
product
information



7623



7620

Stripped Wire Cable End
provided on retail units.

Wire Color	Circuit Function
Red	Remote
Black	Ground
Yellow	LED Output
Brown	SI/EI #1
Green	SI/EI #2
Orange	SI/EI #3



2146 Remote Control
Contura Switch
Action: ON-OFF-ON
Included in retail package



Deutsch DTM Cable End
provided on bulk units.
Other connector plugs
are available for high
volume OEM applications



9160

Paralleling Link Bus

For paralleling ML-Remote Battery Switches
and Automatic Charging Relays

- Tin-plated copper for maximum conductivity and corrosion resistance
- 500A continuous rating
- Sold individually

See page 13 for subsystem diagram

Choose the right ACR for your application

Step 1 Select an ACR that has a **CONTINUOUS** rating above the maximum alternator output rating and an **INTERMITTENT** rating that is above the largest load on the auxiliary battery.

See page 24 for an explanation.

Step 2 Review the **PRESET ACR SETTINGS**

Step 3 Select the ACR with the desired **PRODUCT FEATURES**

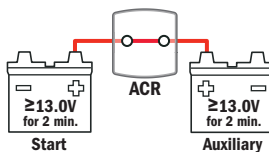


Part N°	7601	7611	7610	7620	7622
CONTINUOUS	65A	120A	120A	500A	500A
INTERMITTENT	115A	210A	210A	700A	700A

PRESET ACR SETTINGS

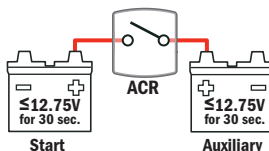
Combine Voltage

- Charge present
- Voltage of either battery is $\geq 13.0V$ for 2 min.
- Relay will close, combining batteries
- Combined batteries share charge



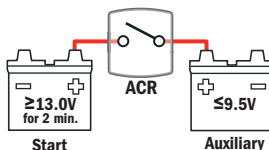
Open Voltage

- No charge present or loads exceed charge input
- Combine voltage is $\leq 12.75V$ for 30 sec.
- Relay will open isolating batteries
- Isolated batteries do not share charge



Under Voltage Lockout

- Charge may or may not be present
- Voltage of either battery is $\leq 9.5V$ (ML-ACR 9.6V)
- Relay will not close even with charge on other battery, protecting ACR and wiring from high surge current
- Isolated batteries do not share charge

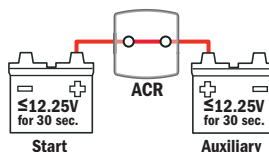


PRODUCT FEATURES

Auxiliary Battery Priority

Condition: Engine running

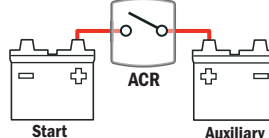
- Open voltage is lowered to 12.25V from 12.75V
- Relay remains closed longer, combining batteries, to allow use of auxiliary loads for a longer period of time



Start Isolation

Condition: Engine starting

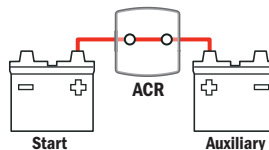
- Relay is open, isolating batteries
- Batteries are isolated to protect sensitive electronics from voltage sags and spikes



Start Assist

Condition: Engine starting - (Press Contura Switch)

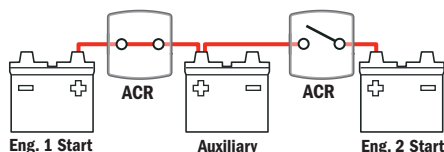
- Relay is closed, combining batteries
- Batteries are combined to share power in the event of a low start battery



Engine Isolation

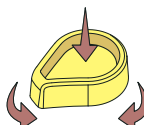
Condition: Two engines are running

- One relay is open and one relay is closed
- Engine 1 Start and Engine 2 Start batteries are isolated to protect engine electronics
- If requested by engine manufacturer










Manual Override

Manual override knob provides an added level of safety allowing manual control of functions









Solenoid and Remote Battery Switch Specifications

Product Type	Solenoid Switches			Remote Battery Switches			
Function	Provides high-amp switching			Provides high-amp switching with manual override			
Product	L-Series	ML-Series	ML-Series	ML-Series	ML-Series	ML-Series	ML-Series
							
Part N°	9012	7701*	7703*	7700*	7702*	7712*	7714*
Manual Control	-	-	-	Yes	Yes	Yes	Yes
Nominal Voltage	12V/24V DC	12V DC	24V DC	12V DC	24V DC	12V DC	24V DC
I ₁₀ Cranking Rating (10 sec.)	1,500A DC	2,500A DC	2,500A DC	2,500A DC	2,500A DC	2,500A DC	2,500A DC
I ₆₀ Cranking Rating (1 min.)	850A DC	1,100A DC	1,100A DC	1,100A DC	1,100A DC	1,100A DC	1,100A DC
I ₃₀₀ Intermittent Rating (5 min.)	600A DC	700A DC	700A DC	700A DC	700A DC	700A DC	700A DC
I _c Continuous Rating	450A DC	500A DC	500A DC	500A DC	500A DC	500A DC	500A DC
Amperage Operating Current - continuous	0.13A @ 12V DC 0.07A @ 24V DC	0mA	0mA	0mA	0mA	< 13mA	< 13mA
Amperage Operating Current - when changing state	3.8A DC	< 7.0A DC	< 4.0A DC	< 7.0A DC	< 4.0A DC	< 7.0A DC	< 4.0A DC
Switching Cycles	1,000,000	100,000	100,000	100,000	100,000	100,000	100,000
Coil Function	Normally Open	ML Bi-Stable	ML Bi-Stable	ML Bi-Stable	ML Bi-Stable	ML Auto-Releasing	ML Auto-Releasing
Control Switch Included	-	2145 SPDT (ON)-OFF-(ON)	2145 SPDT (ON)-OFF-(ON)	2145 SPDT (ON)-OFF-(ON)	2145 SPDT (ON)-OFF-(ON)	2155 SPDT ON-ON	2155 SPDT ON-ON
Control Circuit Connection	Tinned Wire	Tinned Wire	Tinned Wire	Tinned Wire	Tinned Wire	Tinned Wire	Tinned Wire
Mounting	#10 or M5	#10 or M5	#10 or M5	#10 or M5	#10 or M5	#10 or M5	#10 or M5
Terminal Stud Size	5/16" (M8)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)
Terminal Stud Length	5/8" (16 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)
Maximum Terminal Stud Torque	80 in-lb (9.0 Nm)	140 in-lb (15.5 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)
Cable Size to Meet Ratings	2/0 AWG (70 mm ²) x 2	4/0 AWG (120 mm ²) x 2	4/0 AWG (120 mm ²) x 2	4/0 AWG (120 mm ²) x 2	4/0 AWG (120 mm ²) x 2	4/0 AWG (120 mm ²) x 2	4/0 AWG (120 mm ²) x 2
Terminal Ring Diameter Clearance	not rated	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)
Width	3.17" (80.50 mm)	3.75" (95.2 mm)	3.75" (95.2 mm)	3.75" (95.2 mm)	3.75" (95.2 mm)	3.75" (95.2 mm)	3.75" (95.2 mm)
Height	2.63" (66.80 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)
Depth	2.86" (72.64 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)
Ignition Protected	SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171
Ingress Protected (see inside back cover)	-	IP66	IP66	IP66	IP66	IP66	IP66

* Bulk units available that incorporate Deutsch DTM Connectors. Other connector plugs are available for high volume OEM applications.

Low Voltage Disconnect and Automatic Charging Relay Specifications

Low Voltage Disconnect	Automatic Charging Relays						
Senses low battery voltage and disconnects non-critical loads	Allows charging of multiple batteries from a single charge source						
m-LVD	m-ACR	BatteryLink™ ACR	SI-Series	ML-Series	ML-Series	ML-Series	ML-Series
							
7635	7601	7611	7610	7620*	7622*	7621*	7623*
Yes	-	-	-	-	Yes	-	Yes
12V DC	12V/24V DC	12V/24V DC	12V/24V DC	12V DC	12V DC	24V DC	24V DC
N/A	N/A	N/A	N/A	2,500A DC	2,500A DC	2,500A DC	2,500A DC
N/A	N/A	N/A	N/A	1,100A DC	1,100A DC	1,100A DC	1,100A DC
115A DC	115A DC	210A DC	210A DC	700A DC	700A DC	700A DC	700A DC
65A DC	65A DC	120A DC	120A DC	500A DC	500A DC	500A DC	500A DC
-	-	15mA open 90mA combined	15mA open 175mA combined	< 40mA	< 40mA	< 40mA	< 40mA
-	-	-	-	< 7.0A DC	< 7.0A DC	< 4.0A DC	< 4.0A DC
-	-	-	-	100,000	100,000	100,000	100,000
Normally Open	Normally Open	Normally Open	Normally Open	ML Bi-Stable	ML Bi-Stable	ML Bi-Stable	ML Bi-Stable
SPDT (ON)-OFF-ON	-	-	-	2146 SPDT ON-OFF-ON	2146 SPDT ON-OFF-ON	2146 SPDT ON-OFF-ON	2146 SPDT ON-OFF-ON
1/4" Quick Connect	-	-	-	Tinned Wire	Tinned Wire	Tinned Wire	Tinned Wire
#10 or M5	#10 or M5	#8 or M4	#8 or M4	#10 or M5	#10 or M5	#10 or M5	#10 or M5
1/4"-20 (M6)	1/4"-20 (M6)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)	3/8"-16 (M10)
7/16" (11 mm)	7/16" (11 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)	7/8" (22 mm)
60 in-lb (6.8 Nm)	60 in-lb (6.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)	140 in-lb (15.8 Nm)
6 AWG (16 mm²)	6 AWG (16 mm²)	1/0 AWG (50 mm²)	1/0 AWG (50 mm²)	4/0 AWG (120 mm²) x 2	4/0 AWG (120 mm²) x 2	4/0 AWG (120 mm²) x 2	4/0 AWG (120 mm²) x 2
0.80" (20.3 mm)	0.80" (20.3 mm)	1.05" (26.7 mm)	1.05" (26.7 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)	1.12" (28.4 mm)
2.85" (72.3 mm)	2.85" (72.3 mm)	3.89" (98.7 mm)	3.89" (98.7 mm)	3.75" (95.3 mm)	3.75" (95.3 mm)	3.75" (95.3 mm)	3.75" (95.3 mm)
2.85" (72.3 mm)	2.85" (72.3 mm)	3.50" (89.0 mm)	3.50" (89.0 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)	5.47" (138.9 mm)
2.57" (65.2 mm)	2.57" (65.2 mm)	1.98" (50.3 mm)	1.98" (50.3 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)	2.03" (51.6 mm)
ISO 8046 SAE J1171	ISO 8846 SAE J1171	ISO 8846, UL1500 SAE J1171	ISO 8846, UL1500 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171	ISO 8846 SAE J1171
IP67	IP67	IP67	IP67	IP66	IP66	IP66	IP66



Blue Sea Systems ST-Blade Fuse Block distributes and protects multiple loads on the Grady White Canyon 306.

CIRCUIT PROTECTION

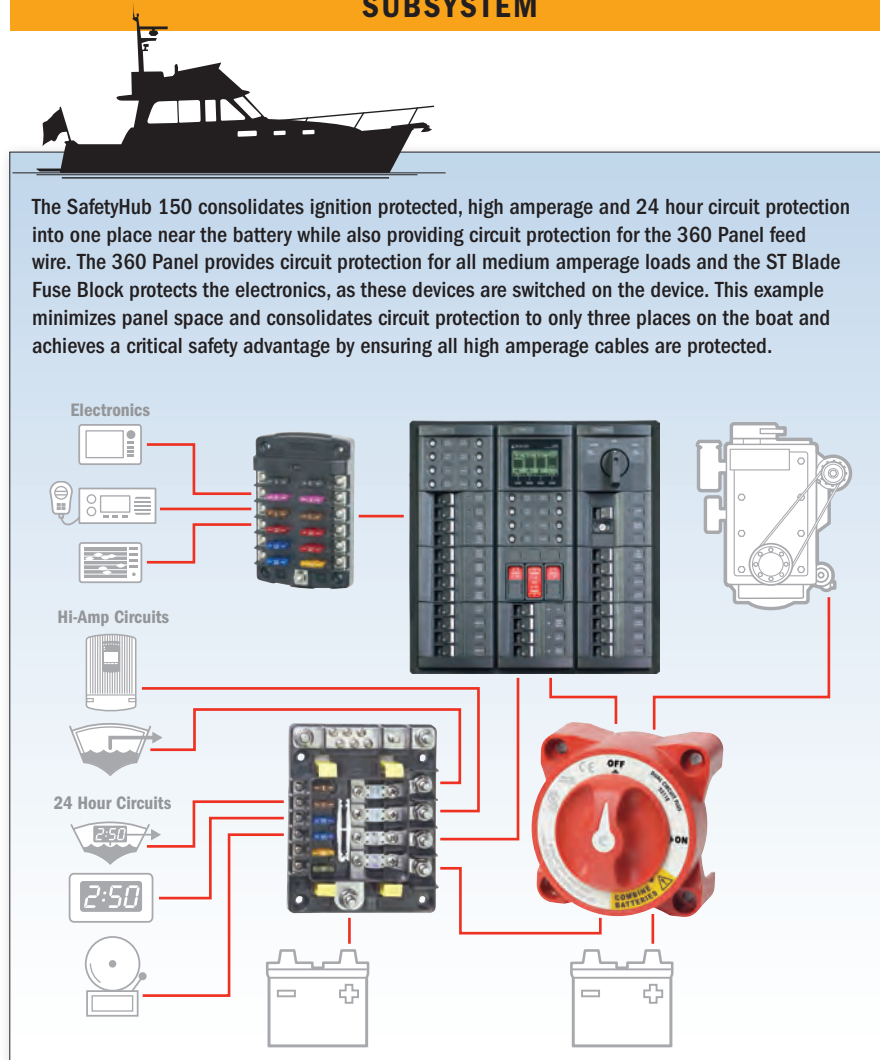
Best practices and ABYC standards recommend that every positive wire on the boat outside the engine starting circuit must have circuit protection. When excessive current flows in an electrical circuit, wire insulation can melt and possibly start a fire.

Circuit breakers and fuses protect the wire in electrical circuits. Blue Sea Systems extensive selection of circuit breakers, fuses, fuse holders, and fuse blocks gives a range of choices for main and branch circuit protection. To help select the right size wire and proper fuse or circuit breaker, Blue Sea Systems offers several tools:

1. A web application found at www.circuitwizard.blueseasystems.com
2. A Mobile Application for iPhone and Android devices
3. You Can Do It Guides
4. Step-by-step guide on pages 121–123 of this catalog.

Blue Sea Systems new ST CLB Circuit Breaker Blocks are specifically designed for applications where resettable circuit breakers are desired but with the same ease of installation and wiring found with an ST-Blade Fuse Block.

SUBSYSTEM



SECTION INDEX

FUSES and FUSE HOLDERS

GMA® and AGA® Fuses	34
AGC® and MDL® Fuses	34
ATO® or ATC® Fuses	35
easyID™ ATC® Fuses	35
MAXI® Fuses	35
MEGA® OR AMG® Fuses	36
AMI® or MIDI® Fuses	36
Terminal Fuses (MRBF)	36
Class T Fuses	37
ANL® Fuses	37
AGC® or MDL® In-Line Fuse Holders	37
ATO® or ATC® In-Line Fuse Holders	37

FUSE BLOCKS

ST Glass Fuse Blocks	38
MAXI™ Fuse Block	38
ST Blade Fuse Blocks	38–39
Terminal Fuse Blocks (MRBF)	40
MIDI® or AMI® Safety Fuse Block	40
MEGA® or AMG® Safety Fuse Block	40
ANL® Fuse Blocks	41
Class T Fuse Block	41

SAFETYHUB FUSE BLOCKS

SafetyHub 100 Fuse Block	42
SafetyHub 150 Fuse Block	43
SafetyHub 250 Fuse Block	43
Fuse and Fuse Holder Comparison	44–45

CIRCUIT BREAKERS

ST CLB Circuit Breaker Block	46
Push Button Reset-Only	47
Medium Duty Push Button Reset-Only	47
Mounting Panel	47
285-Series and Mounting System	48
187-Series	49
A-Series Toggle and Mounting Panels	50
A-Series Rocker	51
C-Series Toggle and Mounting Panels	52
C-Series Rocker	53
Residual Current Circuit Breakers (ELCI and GFCI)	53
SMS Surface Mount System	56–57
Circuit Breaker Comparison	58–59

SWITCHES

Water Resistant Contura Switches	60
Water Resistant Contura Dimmer Switches	60
Contra Switch Accessories	60–61
Remote Control Contura Switches	61
Remote Control Contura Switch Panels	61
360 Panel Rocker Switches	61
Dual Bilge Pump 360 Panel Module	61
Switch Comparison	63

Resource Tools



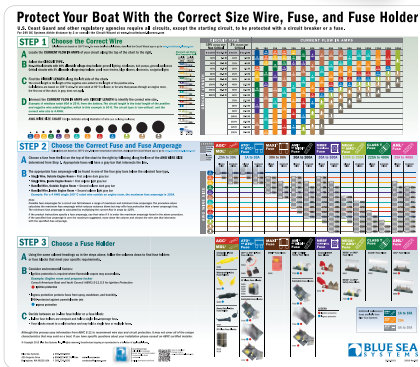
Scan to
use the
Circuit
Wizard

Blue Sea Systems provides several free tools to help select the correct size wire, fuse, circuit breaker, and fuse holder. The Circuit Wizard App for iPhone and Android devices is the latest addition to the company's available resources. Other tools include the online Circuit Wizard, Counter Mat, and brochure version of the Circuit Wizard.

Use the Blue Sea Systems Circuit Wizard to select the correct wire size, circuit breaker or fuse type and amperage, and fuse holder



20008
You Can Do It, Protect
Your Boat with the
Correct Size Wire,
Fuse, and Fuse Holder
• 20 guides per pack



20010
20" x 17" Deskmat

Color Coding Explained

The circuit protection color coded packaging matches fuses with the corresponding holder or block for easier component selection. Look for color rectangles on the packaging of each fuse holder and block, and match the color with the fuse packaging to find the correct fuse type.

Some fuse blocks, such as the SafetyHub 150, require two different fuse types. Both color areas are shown on the SafetyHub packaging.



SafetyHub 150 Fuse Block package shows blue ATO® or ATC® and black AMI® or MIDI® rectangles to represent fuse types required

AC ~ DC

GMA® and AGA® Fuses

Fast-acting glass fuses

Features

- Visible indication of blown condition
- Used for 12V/24V DC applications



Specifications

Vmxo Voltage Max. Operating

See table

Itr Amperage Trip Reference

See table

Blow Time Delay

See www.bluesea.com

Part N°	Fuse Type	Itr Amps	Vmxo DC Volts	Vmxo AC Volts	Retail Pack
5280	GMA®	1A	24V DC	250V AC	3
5281	GMA®	2A	24V DC	250V AC	3
5282	GMA®	3A	24V DC	250V AC	3
5283	GMA®	5A	24V DC	125V AC	3
5284	GMA®	7A	24V DC	125V AC	3
5285	GMA®	10A	24V DC	125V AC	3
5275	AGA®	20A	32V DC	-	5

AGC® and MDL® Fuses

AGC® - Fast-acting glass fuses

MDL® - Slow blow glass fuses



Features

- Visible indication of blown condition

Specifications

Vmxo Voltage Max. Operating

32V DC / See table for AC

Itr Amperage Trip Reference

See table

Blow Time Delay

See www.bluesea.com

AGC® Fuses

Part N°	Itr Amps	Vmxo Volts	Retail Pack
5201	.25A	250V AC	5
5202	.5A	250V AC	5
5204	1A	250V AC	5
5204100	1A	250V AC	25
5205	1.5A	250V AC	5
5206	2A	250V AC	5
5206100	2A	250V AC	25
5207	2.5A	250V AC	5
5208	3A	250V AC	5
5208100	3A	250V AC	25
5209	4A	250V AC	5
5210	5A	250V AC	5
5210100	5A	250V AC	25
5211	6A	250V AC	5
5212	7A	250V AC	5
5213	7.5A	250V AC	5
5213100	7.5A	250V AC	25
5215	10A	250V AC	5
5215100	10A	250V AC	25
5217	15A	-	5
5217100	15A	-	25
5218	20A	-	5
5218100	20A	-	25
5219	25A	-	5
5219100	25A	-	25
5220	30A	-	5
5220100	30A	-	25
5288	1A, 3A, 5A, 10A, 15A		5
5289	4 each 1A, 2A, 3A, 5A, 7.5A, 10A, 15A, 20A, 25A, 30A		40

MDL® Fuses

Part N°	Itr Amps	Vmxo Volts	Retail Pack
5226	3A	250V AC	2
5227	5A	250V AC	2
5228	6.25A	250V AC	2
5229	7.5A	250V AC	2
5230	10A	-	2
5231	15A	-	2
5232	20A	-	2
5233	25A	-	2
5234	30A	-	2



5289

Includes a Heavy Duty In-Line
Fuse Holder 5063 (p. 37)
4 each 1A, 2A, 3A,
5A, 7.5A, 10A, 15A,
20A, 25A, 30A

Related Products



AGC® or MDL® In-Line fuse holders
p. 37



ST-Glass Fuse Blocks
p. 38

ATO® or ATC® Fuses

Fast-acting blade fuse

Features

- Tin-plated connector blades for corrosion resistance

Specifications

Iic	Interrupting Capacity	1,000A
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table
	Blow Time Delay	See www.blueseasea.com



	Part N°	Itr Amps	Retail Pack
NEW	5235	1A	2
	5235100	1A	25
NEW	5236	2A	2
	5236100	2A	25
NEW	5237	3A	2
	5237100	3A	25
	5238	4A	2
	5239	5A	2
	5239100	5A	2
NEW	5240	7.5A	2
	5240100	7.5A	25
NEW	5241	10A	2
	5241100	10A	25
	5242	15A	2
	5242100	15A	2
NEW	5243	20A	2
	5243100	20A	25
NEW	5244	25A	2
	5244100	25A	25
NEW	5245	30A	2
	5245100	30A	25
	5246	40A	2
	5287	5A, 10A, 15A, 20A, 25A, 30A	6

Related Products



ST-Blade Fuse Blocks p. 39 WeatherDeck® Waterproof Fuse Panels p. 77 SafetyHub Fuse Blocks p. 43 Fuse Holders p. 37

ATM® Fuses

Mini blade-type fuse

Features

- Color-coded for easy amperage identification

Specifications

Iic	Interrupting Capacity	1,000A
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table
	Blow Time Delay	See www.blueseasea.com



	Part N°	Itr Amps	Retail Pack
	5270	5A	2
	5271	10A	2
	5272	15A	2
	5273	20A	2
	5274	30A	2
	5286	5A, 10A, 15A, 20A, 30A	5

easyID™ ATC® Fuses

Fast-acting easyID™ illuminated blade fuses use Light Emitting Diode (LED) technology to show when a fuse has blown.

Features

- Tin-plated connector blades for corrosion resistance

Specifications

Iic	Interrupting Capacity	1,000A
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table
	Blow Time Delay	See www.blueseasea.com



	Part N°	Itr Amps	Retail Pack
	5291	3A	2
	5292	5A	2
	5293	7.5A	2
	5294	10A	2
	5295	15A	2
	5296	20A	2
	5297	25A	2
	5298	30A	2
	5299	40A	2
	5290	3x 3A, 3x 5A, 3x 7.5A, 3x 10A, 6x 15A, 3x 20A, 3x 25A, 3x 30A, 3x 40A	30



5290
3x 3A, 3x 5A, 3x 7.5A, 3x 10A, 6x 15A, 3x 20A, 3x 25A, 3x 30A, 3x 40A

Related Products



ST-Blade Fuse Blocks p. 39 WeatherDeck® Waterproof Fuse Panels p. 77 SafetyHub Fuse Blocks p. 43 Fuse Holders p. 37

MAXI™ Fuses

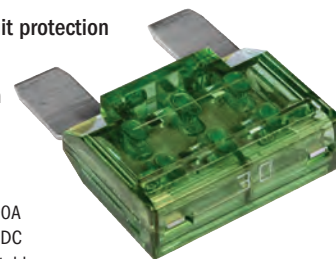
Provides economical branch circuit protection

Features

- Visible indication of blown condition
- Silver-plated connector blades for corrosion resistance

Specifications

Iic	Interrupting Capacity	1,000A
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table
	Blow Time Delay	See www.blueseasea.com



	Part N°	Itr Amps	Retail Pack
	5138	30A	1
	5139	40A	1
	5140	50A	1
	5141	60A	1
	5142	70A	1
	5143	80A	1

Related Products



MAXI™ Fuse Block 5006
p. 38

For a full scale fuse comparison and to choose the correct fuse and fuse amperage, see page 122.

DC

AMI® or MIDI® Fuses

Compact fuse for main or branch
30 to 200 Amp circuit protection

Features

- Visible indication of blown condition

Specifications

Iic	Interrupting Capacity	5,000A @ 16V DC 2,000A @ 32V DC
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table below

Regulatory Meets SAE J1171 external ignition protection requirements when used with Blue Sea Systems' Fuse Blocks
IP66—protected against powerful water jets (see inside back cover)

Part N°	Itr Amps	Color	Retail Pack
5250	30A	Orange	2
5251	40A	Green	2
5252	50A	Red	2
5253	60A	Yellow	2
5254	70A	Brown	2
5255	80A	White	2
5256	100A	Blue	2
5257	125A	Pink	2
5258	150A	Lt Blue	2
5259	175A	Tan	2
5260	200A	Purple	2



Related Products



Safety Fuse Block 7720
p. 40

SafetyHub Fuse Blocks
p. 43

MEGA® or AMG® Fuses

Economical fuse for 100 to
300 Amp circuit protection

Specifications

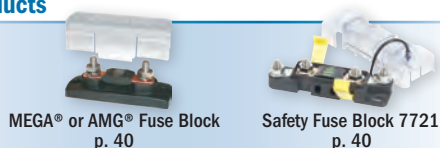
Iic	Interrupting Capacity	2,000A @ 32V DC
Vmxo	Voltage Max. Operating	32V DC
Itr	Amperage Trip Reference	See table below
	Trip Time Delay	See www.blueseasea.com

Regulatory Meets SAE J1171 external ignition protection requirements When used with Blue Sea Systems' Safety Fuse Block 7721 (p. 40)
IP66—protected against powerful water jets (see inside back cover)

Part N°	Itr Amps	Retail Pack
5101	100A	1
5102	125A	1
5103	150A	1
5104	175A	1
5105	200A	1
5106	225A	1
5107	250A	1
5108	300A	1



Related Products



MEGA® or AMG® Fuse Block
p. 40

Safety Fuse Block 7721
p. 40

Terminal Fuses

MRBF—Marine Rated Battery Fuse

Space-saving ignition protected fuse for 30 to 300 Amp loads.
Must use with Terminal Fuse Block (page 40)

Features

- Visible indication of blown condition

Specifications

Iic	Interrupting Capacity	10,000A @ 14V DC 5,000A @ 32V DC 2,000A @ 58V DC
Vmxo	Voltage Max. Operating	58V DC
Itr	Amperage Trip Reference	See table below
	Fuse Hole Opening	M8 (5/16")
	Trip Time Delay	See www.blueseasea.com



Regulatory

Meets SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

ABYC E-11.10.1.1.1. Overcurrent Protection Device Location - Ungrounded conductors shall be provided with overcurrent protection within a distance of seven inches (175mm) of the point at which the conductor is connected to the source of power measured along the conductor.

Part N°	Itr Amps	Color	Retail Pack
5175	30A	LT Green	1
5176	40A	LT Blue	1
5177	50A	Red	1
5178	60A	Gold	1
5180	75A	Brown	1
5181	80A	Lime	1
5182	90A	Purple	1
5183	100A	Yellow	1
5184	125A	Green	1
5185	150A	Orange	1
5186	175A	White	1
5187	200A	Blue	1
5188	225A	Tan	1
5189	250A	Pink	1
5190	300A	Gray	1

For a full scale fuse comparison and to choose the correct fuse and fuse amperage, see page 122



Boston Whaler uses Terminal fuses and fuse blocks as circuit protection aboard the 370 Outrage.

Related Products



MRBF® Terminal Fuse Blocks
p. 40

Class T Fuses

High interrupt capacity for large battery banks including Lithium-Ion and TPPL batteries

Features

- Extremely fast short-circuit response
- Recommended by most inverter manufacturers

Specifications

Iic	Interrupting Capacity	20,000A @ 160V DC
Vmxo	Voltage Max. Operating	160 Volts DC
Itr	Amperage Trip Reference	See table below
	Trip Time Delay	See www.blueseas.com

Regulatory

UL listed to standard 248-15

Part N°	Itr Amps	Retail Pack
5117	225A	1
5118	250A	1
5119	300A	1
5120	350A	1
5121	400A	1



Related Products



Class-T Fuse Block p. 41

ANL Fuses

For 35–750 Amp loads

Features

- Silver-plated connector blades for corrosion resistance
- Visible indication of blown condition

Specifications

Iic	Interrupting Capacity	6,000A @ 32V DC
Vmxo	Voltage Maximum Operating	32 Volts DC
Itr	Amperage Trip Reference	See table below
	Trip Time Delay	See www.blueseas.com

Regulatory

35-500A ONLY—Meets SAE J1171 external ignition protection requirements

Part N°	Itr Amps	Retail Pack
5164	35A	1
5165	40A	1
5122	50A	1
5123	60A	1
5124	80A	1
5125	100A	1
5126	130A	1
5127	150A	1
5128	175A	1
5129	200A	1
5130	225A	1

Part N°	Itr Amps	Retail Pack
5131	250A	1
5132	275A	1
5133	300A	1
5134	325A	1
5135	350A	1
5136	400A	1
5137	500A	1
5161	600A	1
5162	675A	1
5163	750A	1



For a full scale fuse comparison and to choose the correct fuse and fuse amperage, see page 122.

Related Products



ANL Fuse Blocks p. 41

AGC® or MDL® In-Line Fuse Holders

Crimpable In-Line Fuse Holder

5060

- Accepts 12-16 AWG wire
- 30A Max. fuse amperage
- Fuse sold separately (p. 34)



5060

Waterproof In-Line Fuse Holders

5061

- Accepts 12-18 AWG wire
- 30A Max. fuse amperage
- Fuse sold separately (p. 34)



5061

5062

- Accepts 12-16 AWG wire
- 20A Max. fuse amperage
- Fuse sold separately (p. 34)



5062

Heavy Duty In-Line Fuse Holder

5063

- Supplied with tinned copper 12 AWG pigtails
- 30A Max. fuse amperage
- Fuse sold separately (p.34)



5063

Water Resistant Fuse Holder

5021

- Rated IP66 on front—protected against powerful water jets
- 20A Max. fuse amperage
- 0.50" (12.70 mm) mounting hole
- Fuse sold separately (p. 34)



5021

5022 Replacement cap for 5021



5022

Related Products



AGC® Fuses p. 34



MDL® Fuses p. 34

ATO® or ATC® In-Line Fuse Holders

In-Line Fuse Holder

5064

- Supplied with 12 AWG pigtails
- 30A Max. fuse amperage
- Fuse sold separately (p. 35)



5064

Waterproof In-Line Fuse Holder

5065

- Supplied with 12 AWG pigtails
- 30A Max. fuse amperage
- Fuse sold separately (p. 35)



5065

Related Products



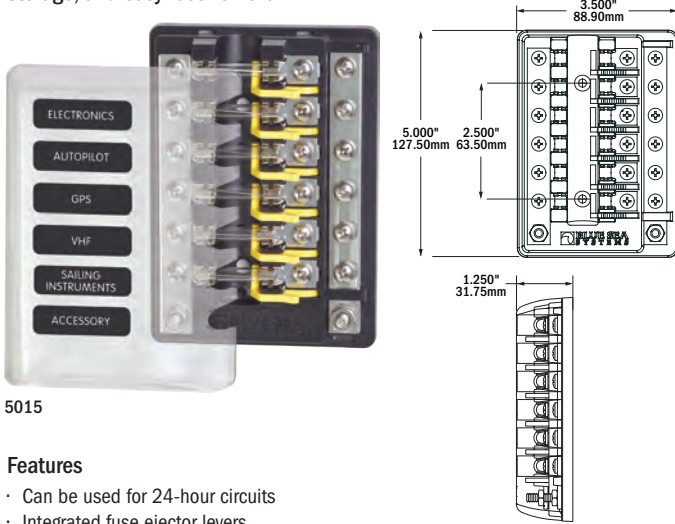
ATO® or ATC® Fuses p. 35



easyID ATC® Fuses p. 35

ST Glass Fuse Blocks Screw Terminal

Innovative design allows for labeling, spare fuse storage, and easy fuse removal



Features

- Can be used for 24-hour circuits
- Integrated fuse ejector levers
- Clear insulating cover satisfies ABYC/USCG insulation requirements, accepts large format labels (p. 117), and provides storage for spare fuses
- Tin-plated phosphor bronze fuse clips are encapsulated and cannot be sprung
- Fuses sold separately (p. 34)

Specifications

Vmxo Voltage Max. Operating	32V DC
Imxo Amperage Max. Operating	30A (per circuit)
Imxo Amperage Max. Operating	100A (per block)
Fuse Type	AGC® or MDL® Fuses
Screw Terminal	#8-32 with Captive Star Lock washer
Mounting	#8 Screw (M4)

Related Products

Part N°	Circuits	Tin-plated copper negative bus
5015	6	#10-32 stud
5018	6	-



MAXI™ Fuse Block

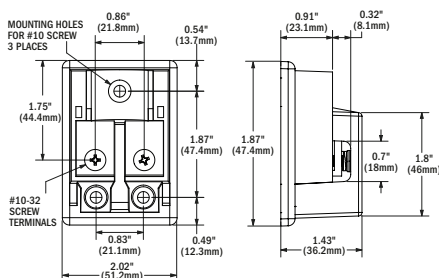
Screw termination accepts a variety of wire sizes from 18 to 4 AWG

Features

- Snap-on terminal cover insulates all conductive parts, satisfying ABYC/USCG requirements
- Accepts wire sizes 18-4 AWG from sides or bottom
- Terminal screws compress fuse blades within blocks for low resistance connections
- Fuses sold separately (p. 35)

Specifications

Vmxo Voltage Max. Operating	32V DC
Imxo Amperage Max. Operating	80A
MAXI™ Fuses available	30-80 Amps
Mounting	#10 Screws



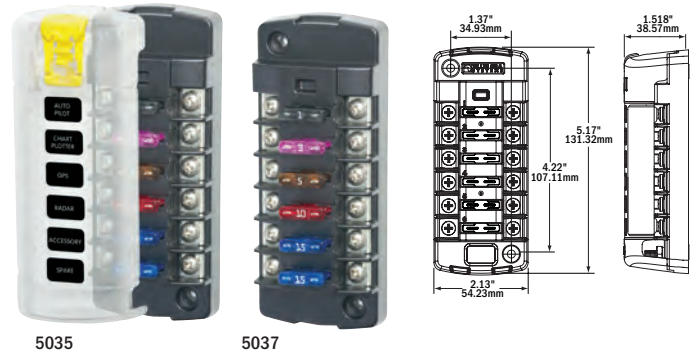
Related Products



ST Blade Fuse Blocks Screw Terminal

Independent Sourced

Compact ATO®/ATC® fuse block consolidates branch circuits and eliminates the tangle of in-line fuses



Features

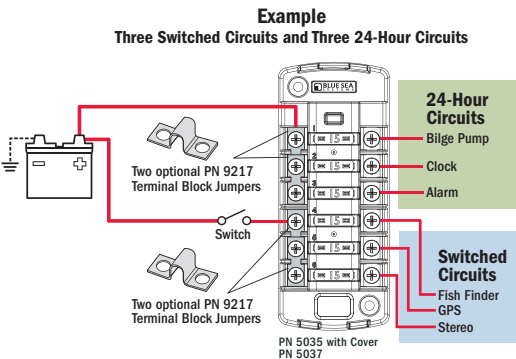
- Can be used for 24-hour circuits and switched circuit in same block
- Clear insulating cover with label recesses and storage for one fuse, satisfies ABYC/USCG insulation requirements
- Accepts ring terminals
- Tin-plated copper buses and fuse clips
- Fuse Block with cover includes 20 write-on circuit labels
- Fuses sold separately (p. 35)

Specifications

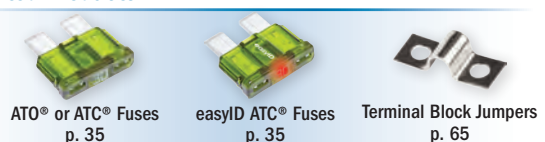
Vmxo Voltage Max. Operating	32V DC
Imxo Amperage Max. Operating	30A (per circuit)
Imxo Amperage Max. Operating	40A (per jumped circuit group)
Fuse Type	ATO® or ATC® Fuses
Screw Terminal	#8-32 Screws with Captive Star Lock washer
Mounting	#8 Screw (M4)

PN	Circuits	Cover
5035	6	Yes
5037	6	-

Application Diagram



Related Products



ST Blade Fuse Blocks Screw Terminal

Common Sourced

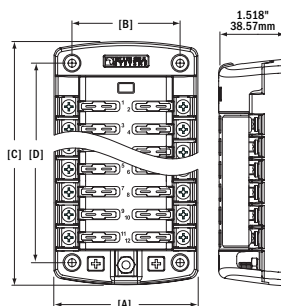
Compact ATO®/ATC® fuse block consolidates branch circuits and eliminates the tangle of in-line fuses

Features

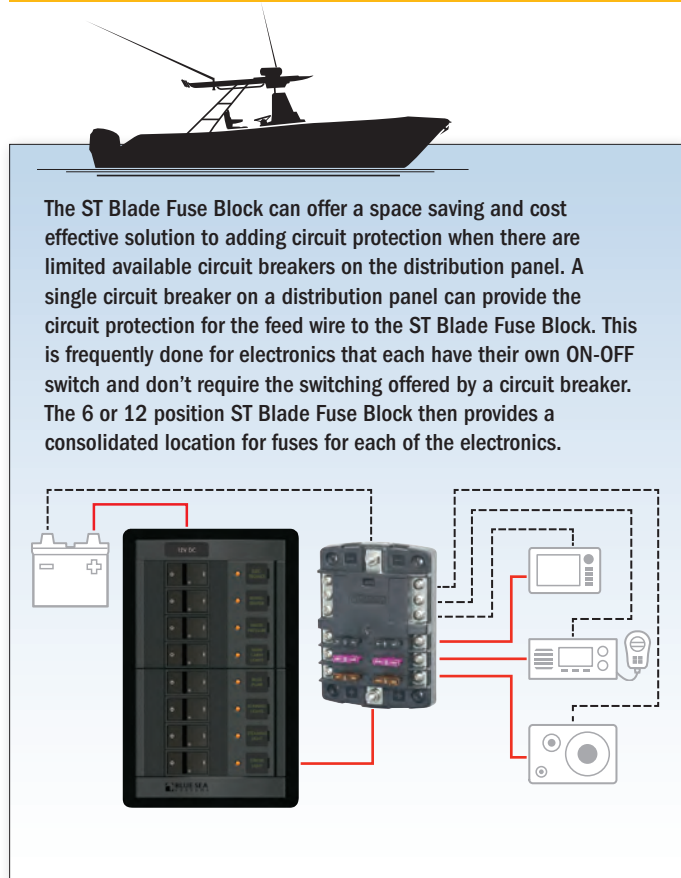
- Clear insulating cover with label recesses and storage for two fuses, satisfies ABYC/USCG insulation requirements
- Accepts ring terminals
- Easy to open, push button latch for easy access to fuses
- Tin-plated copper buses and fuse clips
- Fuse blocks with covers include 20 write-on circuit labels
- Fuses sold separately (p. 35)

Specifications

Vmxo Voltage Max. Operating	32V DC
Imxo Amperage Max. Operating	30A (per circuit)
Imxo Amperage Max. Operating	100A (per block)
Fuse Type	ATO® or ATC® Fuses
Screw Terminal	#8-32 Screws with Captive Star Lock washer
Mounting	#8 Screw (M4)



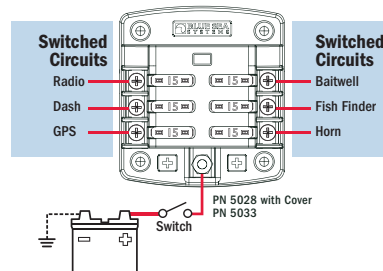
SUBSYSTEM



The ST Blade Fuse Block can offer a space saving and cost effective solution to adding circuit protection when there are limited available circuit breakers on the distribution panel. A single circuit breaker on a distribution panel can provide the circuit protection for the feed wire to the ST Blade Fuse Block. This is frequently done for electronics that each have their own ON-OFF switch and don't require the switching offered by a circuit breaker. The 6 or 12 position ST Blade Fuse Block then provides a consolidated location for fuses for each of the electronics.

Application Diagram

Example
Six Switched Circuits or Six 24-Hour Circuits



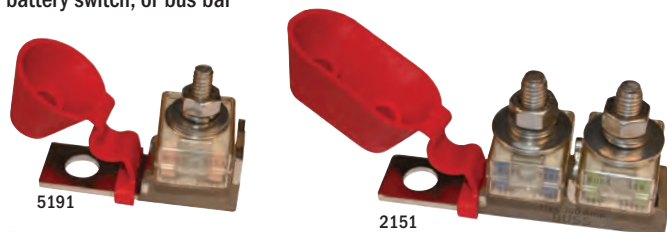
Related Products



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

Terminal Fuse Blocks MRBF—Marine Rated Battery Fuse

Satisfies ABYC 7" circuit protection rule by mounting on a 3/8" battery post, battery switch, or bus bar



Features

- Appropriate for DC Main, inverter, windlass, and bow thruster circuit protection
- Weatherproof—suitable for small open-cockpit boats and other harsh environments
- Insulating cap prevents accidental shorts
- Fuses sold separately (p. 36)

Specifications

Vmxo Voltage Max. Operating	58V DC
Imxo Amperage Max. Operating	300A
Terminal Fuses Available	30–300 Amps

Regulatory

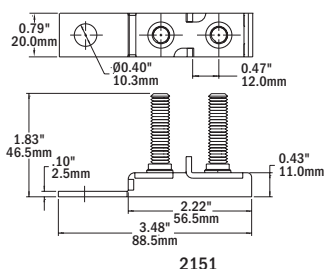
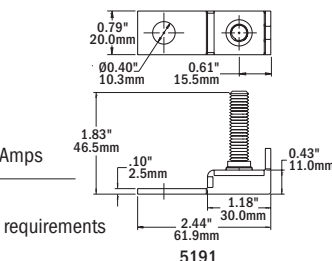
Meets SAE J1171 external ignition protection requirements

Part N°	Terminal Stud Size	Mounting Hole	Fuses
5191	M8 (5/16"-18)	3/8"	1
2151	M8 (5/16"-18)	3/8"	2

Related Products



Terminal MRBF Fuses p. 36



MEGA® or AMG® Fuse Block

Provides an economical system for 100 to 300 Ampere fusing

- Insulating cover with breakouts satisfies ABYC/USCG insulation requirements
- Stainless steel studs provide resistance to corrosion and allow high torque
- UL 94-V0 base resists high heat
- Fuses sold separately (p. 36)

Specifications

Vmxo Voltage Maximum Operating	32 Volts DC
Imxo Amperage Maximum Operating	300 Amps
Wire Size to Meet Rating	4/0 AWG (120mm²)
MEGA® or AMG® Fuses available	100–300 Amps

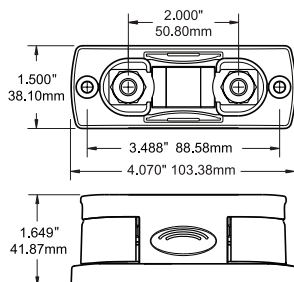


Part N°	Terminal Stud Size	Mounting
5001	5/16"-18 (M8)	#10 (M5) Screws

Related Products

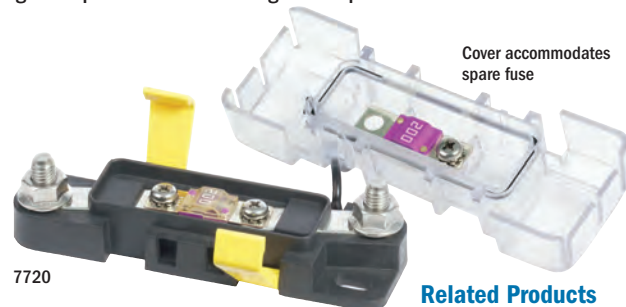


MEGA® or AMG® Fuses p. 36



Safety Fuse Blocks

Ignition protected for use on gasoline powered boats

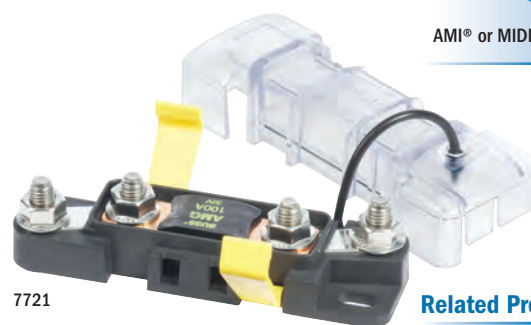


Cover accommodates spare fuse

Related Products



AMI® or MIDI® Fuses p. 36



Related Products



MEGA® or AMG® Fuses p. 36

Features

- Sealed cover protects fuses from the harsh marine environment and satisfies ABYC/USCG insulation requirements
- Cover breakouts allow wire access in three directions
- Accepts Blue Sea Systems square format standard or custom label
- Fuses sold separately (p. 36)

Specifications

Vmxo Voltage Max. Operating	32V DC
Wire Size to Meet Rating	2/0 AWG (70 mm²)
Mounting holes	Accept 1/4" (M6) Screws
Terminal Stud Size	M8 x 1.25
Terminal Screw Size	M5 x 0.8 Stainless Steel (7720 only)

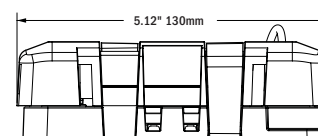
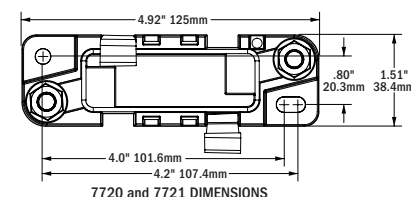
Regulatory

CE marked

Meets ISO 8846 and SAE J1171 external ignition protection requirements when cover is secure

IP66 – protected against powerful water jets (see inside back cover)

Part N°	Fuse Type	Maximum Amperage Rating	Wire Size to Meet Rating
7720	AMI® or MIDI®	200A	2/0 AWG (70 mm²)
7721	MEGA® or AMG®	300A	4/0 AWG (120 mm²)

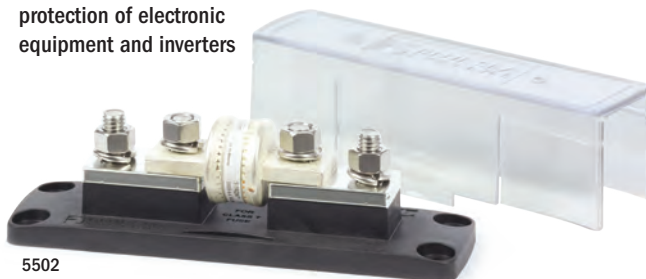


7720 and 7721 COVER FRONT

DC

Class T Fuse Block

Allows use of Class T fuses for fast acting circuit protection of electronic equipment and inverters



5502

Features

- 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
- UL 94-V0 base resists high heat
- Fuse sold separately (p. 37)

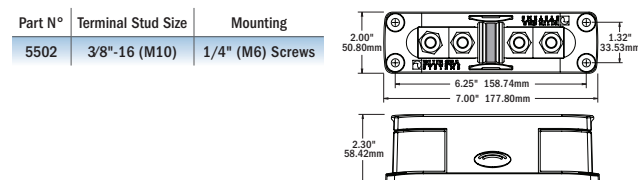
Specifications

Vm_{xo} Voltage Max. Operating	160V DC
Im_{xo} Amperage Max. Operating	400A
Cable Size	Up to 4/0 AWG (120 mm ²)
Fuse Mounting Blocks	Tin-Plated Copper
Class T Fuses available	225-400 Amps

NOTE:

5502 replaces 5002

Current design reduces cost, maintains performance and improves insulating cover



Related Products



Class T Fuses p. 37

2718 Enclosure p. 38



Nordhavn Yachts protect high amp loads with multiple Blue Sea Systems Class T and ANL® fuse blocks on the Nordhavn 60 motor yacht.

Photo: David J. Shuler

ANL Fuse Blocks

Accepts a wide range of ANL fuse amperages for versatile fusing



5005

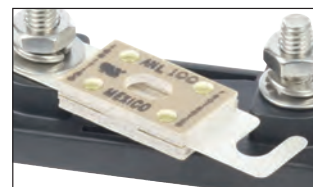


5503

NOTE:

5503 replaces 5003

Current design reduces cost, maintains performance and improves insulating cover



Swing out design allows replacement of the fuse without removing fasteners

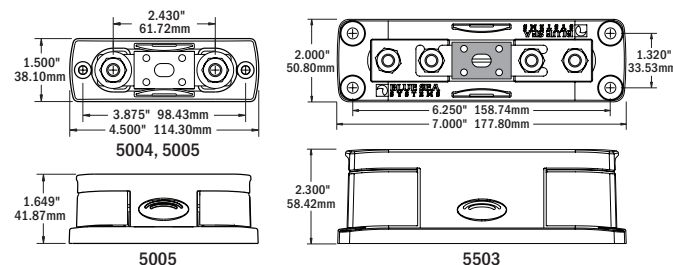
Features

- 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
- UL 94-V0 base resists high heat
- Fuse sold separately (p. 37)

Specifications

	5503	5005
Vm_{xo} Voltage Max. Operating	32V DC	32V DC
Terminal Stud Size	5/16"-18 (M8)	5/16"-18 (M8)
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

Part N°	Im _{xo} Amperage Maximum Operating	Mounting Holes Accept
5005	300A	#10 (M5) Screw
5503	750A	1/4" (M6) Screw



Related Products



ANL Fuses p. 37

2718 Enclosure p. 68

SafetyHub Fuse Blocks

SafetyHub Fuse Blocks Explained

The SafetyHub product family is made up of ignition-protected fuse blocks capable of consolidating and protecting multiple 1A to 200A circuits. They are ignition protected for use on gasoline powered boats, and their reduced wiring connections make them easy to install. The SafetyHubs can be used for main or branch circuit protection.

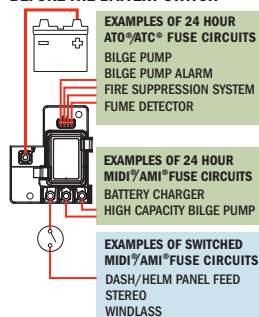
In addition, the SafetyHub 250 incorporates a battery switch with remote and manual control. This feature provides a local switch for emergency shutdown or servicing and allows convenient battery control from a remote location.

The SafetyHub 100 and 250 feature integrated connecting plugs. These plugs eliminate the tangle of wires to the low-amperage and remote control circuits and ensure that the connections are secure. The SafetyHub 150 features an integrated negative bus. By utilizing ATO® or ATC® and AMI® or MIDI® fuses, the SafetyHubs are able to consolidate multiple fuses into a compact space.

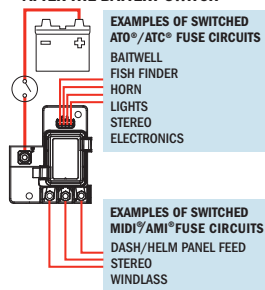
SafetyHub Application Diagrams

SafetyHub 100 Fuse Block

FUSE BLOCK CONNECTED BEFORE THE BATTERY SWITCH

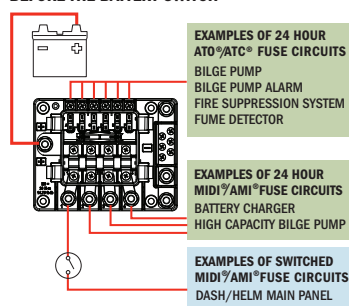


FUSE BLOCK CONNECTED AFTER THE BATTERY SWITCH

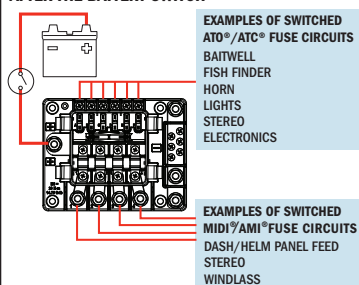


SafetyHub 150 Fuse Block

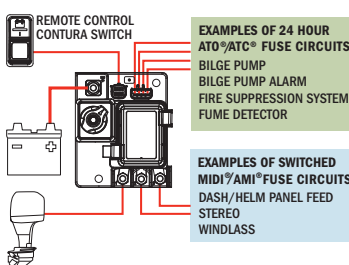
FUSE BLOCK CONNECTED BEFORE THE BATTERY SWITCH



FUSE BLOCK CONNECTED AFTER THE BATTERY SWITCH



SafetyHub 250 Fuse Block with Remote Battery Switch



DC

SafetyHub 100 Fuse Block

The SafetyHub 100 combines an ignition protected fuse block and integrated connecting plugs. It is safe for use on gasoline powered boats, reduces wiring connections, and consolidates up to seven fused circuits.



Features

- Accepts three AMI® or MIDI® Fuses for high-amp circuits
- Accepts four ATO® or ATC® Fuses for circuits including bilge pumps, alarms and clock memory
- Sealed cover protects fuses from the harsh marine environment
- Integrated connector plug eliminates loose wires and provides a secure, waterproof connection
- Ignition protected fuse block meets Coast Guard and ABYC requirements for installation on gasoline or diesel powered boats
- Fuses sold separately (p. 35–36)

Specifications

Imxo	Amperage Max. Operating (combined)	280A
Vmxo	Nominal Operating Voltage	12V DC
	Minimum Cable Size to Meet Ratings	4/0 AWG (120 mm²)
	Recommended Ring Terminal	M8 (5/16")
	Stud Size	M8 x 1.25

AMI® or MIDI® Fuse Block

Imxo	Amperage Max. Operating (per block)	240A†
Imxo	Amperage Max. Operating (per circuit)	170A†
	Fuse Amperages Available	30A–200A
	Minimum Cable Size to Meet Ratings	2/0 AWG (70 mm²)
	Screw Size	M5 x .8 x 10

ATO® or ATC® Fuse Block

Imxo	Amperage Max. Operating (per block)	50A†
Imxo	Amperage Max. Operating (per circuit)	20A†
	Fuse Amperages Available	1A–20A

Regulatory

CE marked, Meets ISO 8846, and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

† Ratings are dependent on input cable sized for appropriate amperages.

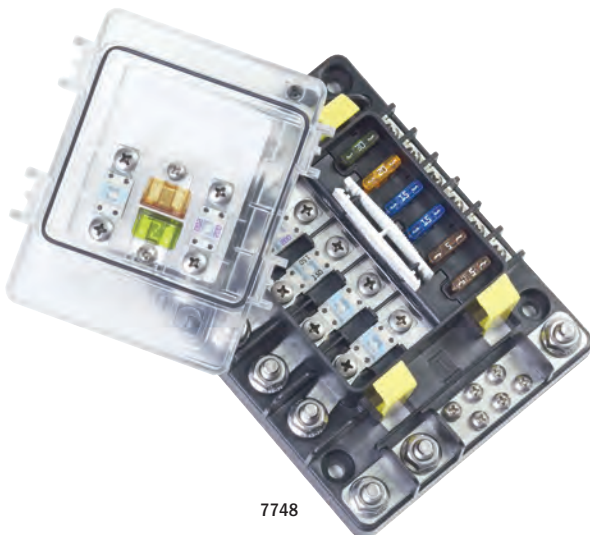
Part N°	Description	Included in Retail Package
7725	SafetyHub 100 Fuse Block	Yes
7731B	Connector Plug with 12" Harness FCI 2.8mm	Yes

Related Products



SafetyHub 150 Fuse Block

The SafetyHub 150 is an ignition protected fuse block with screw termination. It is safe for use on gasoline powered boats, reduces wiring connections, and consolidates up to ten fused circuits.



Features

- Accepts four AMI® or MIDI® Fuses for high-amp circuits
- Accepts six ATO® or ATC® Fuses for circuits including bilge pumps, electronics and lights
- Sealed cover protects fuses from the harsh marine environment
- Negative bus provides common location for negative connection
- Circuit identification label with write-on capability
- Fuse puller easily removes ATO® or ATC® Fuses
- Cover provides storage space for two spare ATO® or ATC® and two spare AMI® or MIDI® fuses and mounting screws
- Fuses sold separately (p. 35–36)

Specifications

Imxo Amperage Max. Operating (combined)	280A
Vmxo Voltage Nominal Operating	12V DC, 24V DC, 32V DC
Minimum Cable Size to Meet Ratings	4/0 AWG (120 mm²)
Recommended Ring Terminal	M8 (5/16")
Stud Size	M8 x 1.25

AMI® or MIDI® Fuse Block

Imxo Amperage Max. Operating (per block)	280A†
Imxo Amperage Max. Operating (per circuit)	170A†
Fuse Amperages Available	30A–200A
Minimum Cable Size to Meet Ratings	2/0 AWG (70 mm²)
Screw Size	M5 x .8 x 10

ATO® or ATC® Fuse Block

Imxo Amperage Max. Operating (per block)	50A†
Imxo Amperage Max. Operating (per circuit)	25A†
Fuse Amperages Available	1A–30A
Screw Size	#8-32

Regulatory

CE marked, Meets ISO 8846, and SAE J1171 external ignition protection requirements
IP66—protected against powerful water jets (see inside back cover)

† Ratings are dependent on input cable sized for appropriate amperages.

Part N°	Description	Included in Retail Package
7748	SafetyHub 150 Fuse Block	Yes

Related Products



SafetyHub 250 Fuse Block

The SafetyHub 250 combines an ignition protected fuse block with a remote battery switch. It is safe for use on gasoline powered boats, reduces wiring connections, and consolidates up to seven fused circuits.



Features

- Battery control from a remote location
- Manual control knob switches high-amp circuits for emergency battery disconnect or servicing
- Accepts three switched AMI® or MIDI® Fuses for high-amp circuits
- Accepts four 24-hour ATO® or ATC® Fuses for circuits including bilge pumps, alarms, and clock memory
- Integrated connector plugs eliminate loose wires and provide a secure connection
- Must be mounted in a dry location
- Fuses sold separately (p. 35–36)

Specifications

Imxo Amperage Max. Operating (combined)	280A
Vmxo Voltage Nominal Operating	12V DC
Minimum Cable Size to Meet Ratings	4/0 AWG (120 mm²)
Recommended Ring Terminal	M8 (5/16")
Stud Size	M8 x 1.25

Internal Battery Switch

Ic Continuous Amperage Rating	240A
I10 Cranking Rating: 10 sec.	1,000A

AMI® or MIDI® Fuse Block

Imxo Amperage Max. Operating (per block)	240A†
Imxo Amperage Max. Operating (per circuit)	170A†
Fuse Amperages Available	30A–200A
Minimum Cable Size to Meet Ratings	2/0 AWG (70 mm²)
Screw Size	M5 x .8 x 10

ATO® or ATC® Fuse Block

Imxo Amperage Max. Operating (per block)	50A†
Imxo Amperage Max. Operating (per circuit)	20A†
Fuse Amperages Available	1A–20A

Regulatory

CE marked, Meets ISO 8846, and SAE J1171 external ignition protection requirements

† Ratings are dependent on input cable sized for appropriate amperages.






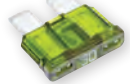


Part N°	Description	Included in Retail Package
7727	SafetyHub 250 Fuse Block with Remote Battery Switch	Yes
2155	Remote Control Switch	Yes
7731B	Connector Plug with 12" Harness FCI 2.8mm	Yes
7730B	Connector Plug with 12" Harness Molex MX-150	Yes
7732B	Engine Link Bus	Yes

Related Products

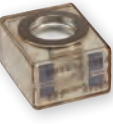
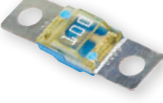





Fuse and Fuse Holder Comparison








DC Fuses*

Product	GMA®	AGA®	AGC®	MDL®	ATM®	ATO® or ATC®	easyID™	MAXI
								
Page N°	34	34	34	34	35	35	35	35
I _{ic} Interrupting Capacity DC	-	-	-	-	1,000A DC	1,000A DC	1,000A DC	1,000A DC
V _{mxo} Maximum Voltage DC	24V DC	32V DC	32V DC	32V DC	32V DC	32V DC	32V DC	32V DC
V _{mxo} Maximum Voltage AC	5-10A: 125V AC 1-3A: 250V AC	-	.25-10A: 250V AC	3-7.5A: 250V AC	-	-	-	-
Amperage Range	1-10A	20A	.25-30A	3-30A	5-30A	1-30A	3-40A	30-80A
Quantity Per Package	3	5	5 or 25	2	2	2 or 25	2	1
Regulatory	-	-	-	-	-	-	-	-

* Certain amperages of GMA®, AGC®, and MDL® fuses are AC/DC rated. See product page for specific ratings





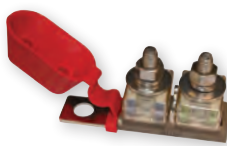
Product	Terminal (MRBF)	AMI® or MIDI®	MEGA® or AMG®	CLASS T	ANL®
					
Page N°	36	36	36	37	37
I _{ic} Interrupting Capacity	10,000A @ 14V DC 5,000A @ 32V DC 2,000A @ 58V DC	5,000A @ 16V DC 2,000A @ 32V DC	2,000A @ 32V DC	20,000A @ 160V DC	6,000A @ 32V DC
V _{mxo} Maximum Voltage	58V DC	32V DC	32V DC	160V DC	32V DC
Amperage Range	30-300A	30-200A	100-300A	225-400A	35-750A
Quantity Per Package	1	2	1	1	1
Regulatory	SAE J1171 IP66 - protected against powerful water jets	ISO 8846 and SAE J1171 when used with Blue Sea Systems' SafetyHubs and Safety Fuse Blocks PN 7720	ISO 8846 and SAE J1171 when used with Blue Sea Systems' Safety Fuse Block PN 7721	-	35-500A Meets ISO 8846 and SAE J1171







DC In-Line Fuse Holders




Product	Crimpable In-Line	Waterproof In-Line	Waterproof In-Line	Heavy Duty In-Line	Water Resistant	ATO® ATC® In-Line	Waterproof ATO® ATC® In-Line
							
Page N° / Part N°	37 / 5060	37 / 5061	37 / 5062	37 / 5063	37 / 5021	37 / 5064	37 / 5065
For use with	AGC® or MDL®	AGC® or MDL®	AGC® or MDL®	AGC® or MDL®	AGC® or MDL®	ATO® or ATC®	ATO® or ATC®
Wire Size	Accepts 12-16 AWG	Accepts 12-18 AWG	Accepts 12-16 AWG	Supplied with 12 AWG Pigtails	-	Supplied with 12 AWG Pigtails	Supplied with 12 AWG Pigtails
I _{mxo} Maximum Amperage	30A per circuit	30A per circuit	20A per circuit	30A per circuit	20A per circuit	30A per circuit	30A per circuit
Regulatory	-	-	-	-	IP66 on front - protected against powerful water jets	-	-

Fuse Block Comparison

DC Fuse Blocks

Product	ST-Glass	ST-Blade	MAXI	Terminal (MRBF)	Terminal (MRBF)
					
Page N° / Part N°	38 / 5015, 5018	39 / 5035, 5028, 5025, 5029, 5026	38 / 5006	40 / 5191	40 / 2151
For use with	AGC® or MDL®	ATO® or ATC®	MAXI	Terminal (MRBF)	Terminal (MRBF)
V _{mxo} Maximum Voltage	32V DC	32V DC	32V DC	58V DC	58V DC
I _{mxo} Maximum Amperage per circuit	30A	30A	80A	300A	300A
I _{mxo} Maximum Amperage per block	100A	100A	80A	300A	300A
Amperage Range	.25-30A	1-30A	30-80A	30-300A	30-300A
Regulatory	-	-	-	Meets SAE J1171 when used with Blue Sea Systems' Terminal (MRBF) Fuses Meets IP66 when used with Blue Sea Systems' Terminal (MRBF) Fuses	Meets SAE J1171 when used with Blue Sea Systems' Terminal (MRBF) Fuses Meets IP66 when used with Blue Sea Systems' Terminal (MRBF) Fuses

Product	MEGA® or AMG®	Safety AMI® or MIDI®	Safety MEGA® or AMG®	Class T	ANL®	ANL®
						
Page N° / Part N°	40 / 5001	40 / 7720	40 / 7721	41 / 5502	41 / 5005	41 / 5503
For use with	MEGA® or AMG®	AMI® or MIDI®	MEGA® or AMG®	Class T	ANL®	ANL®
V _{mxo} Maximum Voltage	32V DC	32V DC	32V DC	160V DC	32V DC	32V DC
I _{mxo} Maximum Amperage per block	300A	200A	300A	400A	300A	750A
Amperage Range	100-300A	30-200A	100-300A	225-400A	35-300A	35-750A
Regulatory	-	ISO 8845/SAE J1171 when cover is secure. IP66-protected against powerful water jets	ISO 8845/SAE J1171 when cover is secure. IP66-protected against powerful water jets	-	-	-

Product	SafetyHub 100		SafetyHub 150		SafetyHub 250	
						
Page N° / Part N°	42 / 7725		43 / 7748		43 / 7727	
For use with	AMI® or MIDI® and ATO® or ATC®		AMI® or MIDI® and ATO® or ATC®		AMI® or MIDI® and ATO® or ATC®	
V _{mxo} Nominal Operating Voltage	12V DC		12V DC, 24V DC, 32V DC		12V DC	
I _{mxo} Maximum Total Amperage (combined)	280A		280A		280A	
I _{mxo} Maximum Amperage (per block)	AMI® or MIDI®: 240A	ATO® or ATC®: 50A	AMI® or MIDI®: 280A	ATO® or ATC®: 50A	AMI® or MIDI®: 240A	ATO® or ATC®: 50A
I _{mxo} Maximum Amperage (per circuit)	AMI® or MIDI®: 170A	ATO® or ATC®: 20A	AMI® or MIDI®: 170A	ATO® or ATC®: 25A	AMI® or MIDI®: 170A	ATO® or ATC®: 20A
Available Amperages	AMI® or MIDI®: 30-200A	ATO® or ATC®: 1-20A	AMI® or MIDI®: 30-200A	ATO® or ATC®: 1-30A	AMI® or MIDI®: 30-200A	ATO® or ATC®: 1-20A
Regulatory	ISO 8846, SAE J1171 IP66-protected against powerful water jets		ISO 8846, SAE J1171 IP66-protected against powerful water jets		ISO 8846, SAE J1171	

DC

ST CLB Circuit Breaker Blocks **NEW**

Compact surface mount solution providing secure screw termination where Push Button Reset-Only CLB Circuit Breakers are desired

Features

- Quick connect clips allow circuit breakers to snap easily into place
- Tin-plated copper busses and screw terminals
- Clear insulating cover with square format label recesses, satisfies ABYC/USCG insulation requirements
- Easy to open clip on cover
- Breakouts allow wire access in two directions
- Accepts ring terminals
- Optional push button waterproof boots or dress nuts can be installed over cover
- Accepts square labels
- Optional jumper 5049, for use with 5050 and 5051
- CLB circuit breakers sold separately (p. 47)

Specifications

Vmxo Voltage Max. Operating	32V DC
Imxo Amperage Max. Operating	32A (per circuit)
Imxo Amperage Max. Operating	100A (per block - common source)
Imxo Amperage Max. Operating	40A (per jumped circuit group - independent source)
Tmno Temperature Min. Operating	-10°C
Tmxo Temperature Max. Operating	60°C
Breaker Type	Push Button Reset-Only Circuit Breaker with Quick Connect Terminals
Screw Terminal Mounting	#8-32 Screws with Captive Star Lock Washer #8 Screw (M4) or #8 Nut

Part N°	Positions	Negative Bus	Source	[A] Height in (mm)	[B] Mounting Centers in (mm)
5050	6	-	Independent Source	6.69 (169.90)	5.63 (143.0)
5051	12	-	Independent Source	11.19 (284.20)	10.13 (257.3)
5052	6	Yes	Common Source	6.69 (169.90)	5.63 (143.0)
5054	12	Yes	Common Source	11.19 (284.20)	10.13 (257.3)
5049	ST CLB Circuit Breaker Block Jumper				

Related Products



Push Button Reset-Only CLB Circuit Breaker Waterproof Boots

Protects push button circuit breakers in wet environments

Features

- Incorporated into waterproof panels (p. 77, 79)
- Protects circuit breaker in wet environments
- Replaces dress nut mounting on circuit breakers

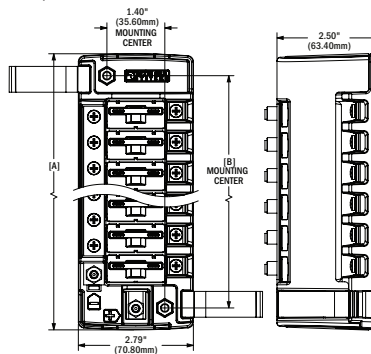
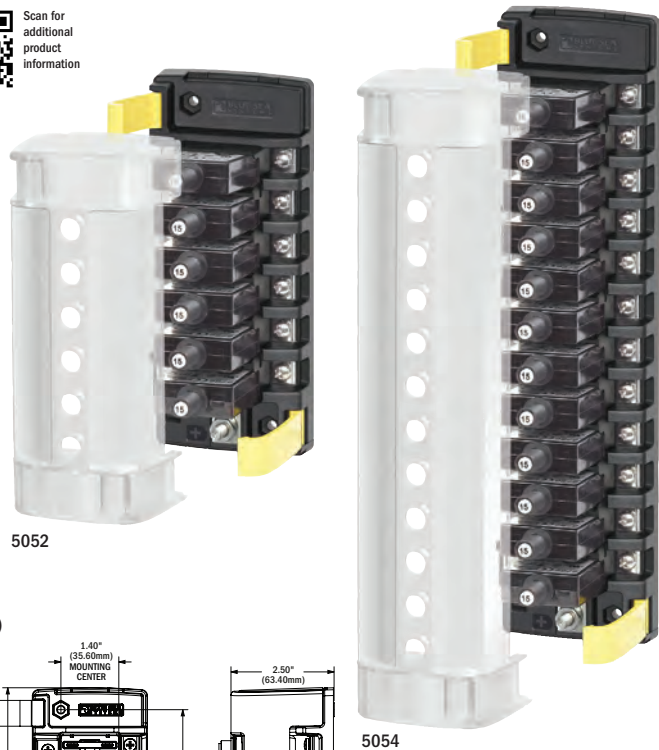
Specifications

Thread Material	Nickel-Plated Brass
Thread	3/8"-27

Regulatory

IP67—protected against immersion up to 1 meter for 30 minutes (see inside back cover)

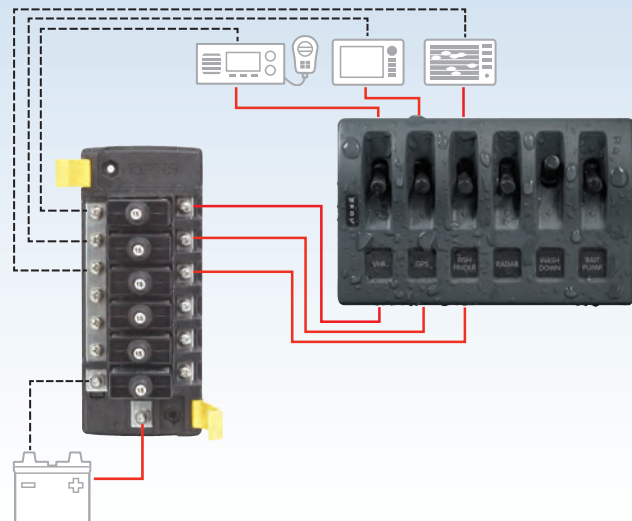
Part N°	Description	Retail Pack
4135	Clear	2
4136	White	2
4137	Black	2



SUBSYSTEM



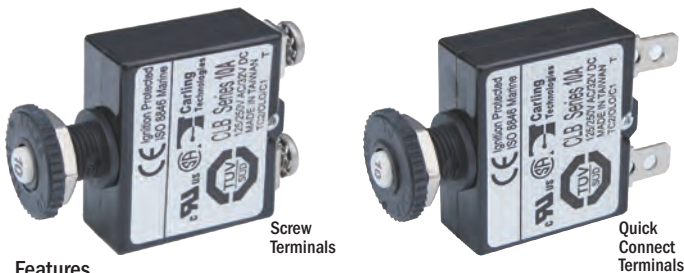
The ST CLB Circuit Breaker Block offers flexible resettable circuit protection for 6-12 circuits in a surface mount block that is easy to mount in a dry and protected location. A natural companion for waterproof switching is the new WD Switch Only Panel (p. 46), that will keep circuits protected from spray and offer integrated switch guards to reduce the risk of accidental switching.



DC

Push Button Reset-Only CLB Circuit Breakers

Provides economical circuit protection for 3 to 40 Amp loads when switching is provided elsewhere or not required



Features

- Quick connect or screw terminal style
- 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

Specifications

Iic Interrupting Capacity	3,000A @ 14.7V DC / 2,500A @ 28V DC
Vmxo Voltage Max. Operating	32V DC
Itr Amperage Trip Reference	See table
Tmno Temperature Min. Operating	-10°C
Tmxo Temperature Max. Operating	60°C
Type	Thermal trip, manual reset
Terminals	#8 Screw Terminals or 1/4" Male Quick Connect Terminals
Screw Terminal Torque	6 in-lb max.
Trip Time Delay	See www.blueseas.com
Thread	3/8"-27 UNS

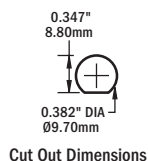
Regulatory

CE marked

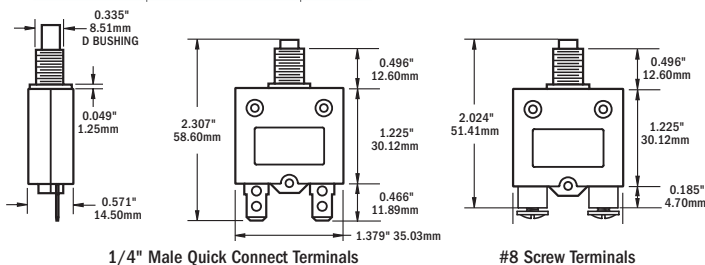
UL Recognized—UL 1077-UL/cUL (USA and Canada), TUV certified
Meets UL 1500 and ISO 8846 external ignition protection requirements

See page 126 for ABYC Interrupting Capacity Requirements.

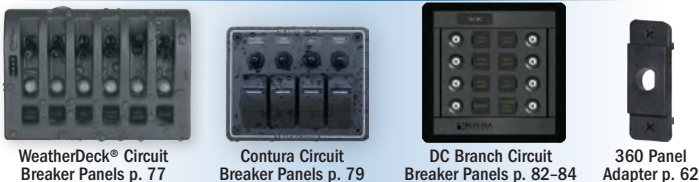
Screw Terminals Part N°	Quick Connect Terminals Part N°	Itr Amps
2129	7050	3A DC
2130	7052	5A DC
2131	7053	7A DC
2132	7054	10A DC
2133	7056	15A DC
2134	7057	20A DC
2135	7058	25A DC
2136	7059	30A DC
2137	7061	40A DC



Cut Out Dimensions



Related Products



AC ~ DC

Medium Duty Push Button Reset-Only Circuit Breakers

Provides circuit protection for 15 to 60 Amp loads when switching is provided elsewhere or not required

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

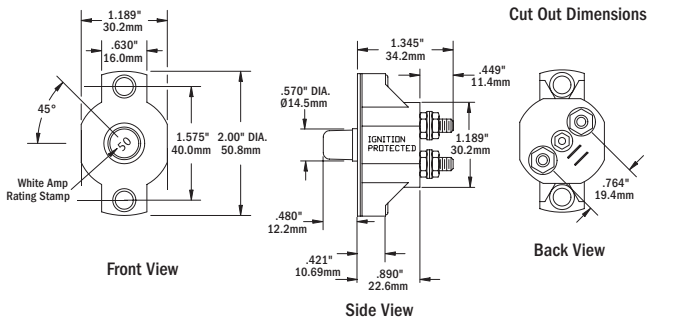
Iic Interrupting Capacity	5,000A @ 32V DC 3,000A @ 120V AC
Vmxo Voltage Max. Operating	32V DC / 120V AC
Itr Amperage Trip Reference	See table
Tmno Temperature Min. Operating	-54°C
Tmxo Temperature Max. Operating	74°C
Type	Thermal trip, manual reset
Terminal Stud	#10-32 Stainless Steel
Terminal Stud Torque	30 in-lb max.
Trip Time Delay	See www.blueseas.com
Mounting Thread	#8 -32

Regulatory

SAE J1428, SAE J553, UL 1077

Meets UL 1500 external ignition protection requirements

See page 126 for ABYC Interrupting Capacity Requirements.



Cut Out Dimensions

Related Product



285-Series Circuit Breakers

Replaces 185-Series Circuit Breakers

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

Features

- Visible reset lever shows open condition
- Trip-free—cannot be held closed after trip
- Drop in replacement for 185-Series Circuit Breakers

Specifications

I_{ic}	Interrupting Capacity	3,000A @ 48V DC†
V_{mxo}	Voltage Max. Operating	48V DC
I_{tr}	Amperage Trip Reference	See table
T_{mno}	Temperature Min. Operating	-40°C
T_{mxc}	Temperature Max. Operating	85°C
Type		Thermally Responsive Bi-Metal Blade
Class		Type III—Switchable/Manual Reset—Trip Free
Terminal Stud		M6 (accepts 1/4" Ring Terminal)
Terminal Stud Torque		50 in-lb
Mounting		1/4" Screw

Regulatory

CE marked

Meets SAE J1171 external ignition protection requirements,

†AIC ratings achieved using SAE J1625

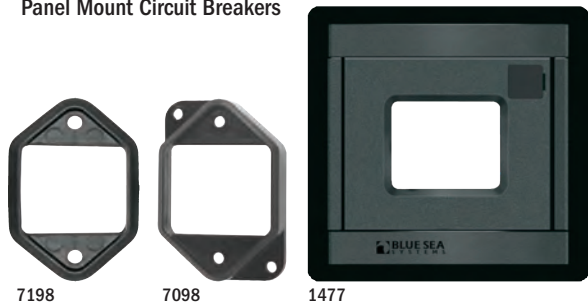
IP67—protected against immersion up to 1 meter for 30 minutes (see inside back cover)

See page 126 for ABYC Interrupting Capacity Requirements.

Panel Mount Part N°	Surface Mount Part N°	I _{tr} Amps
7080	7180	25A DC
7081	7181	30A DC
7082	7182	40A DC
7083	7183	50A DC
7084	7184	60A DC
7085	7185	70A DC
7086	7186	80A DC
7087	7187	100A DC
7088	7188	120A DC
7089	7189	150A DC

285-Series Mounting Options

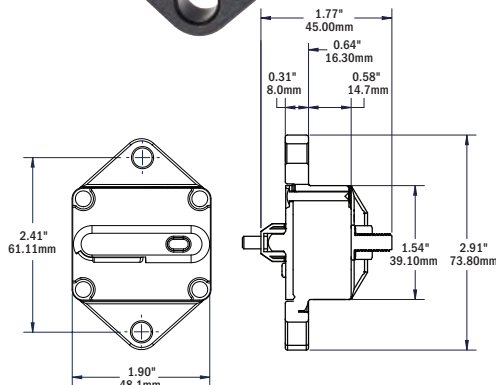
Provides mounting for Cooper Bussmann® 285-Series or 185-Series Panel Mount Circuit Breakers



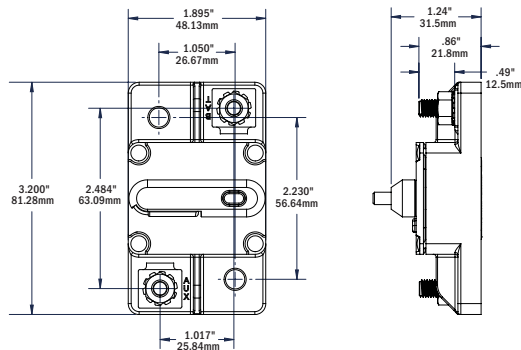
Part N°	Description	Width in (mm)	Height in (mm)
7198	Self-trimming molded rubber bezel	2.44 (61.90)	3.31 (84.07)
7098	Circuit breaker adapter bezel allows circuit breaker mounting in a 2-1/8" round hole	2.44 (61.90)	3.31 (84.07)
1477	Provides circuit breaker mounting in the 360 Panel System	4.88 (123.83)	4.75 (120.65)



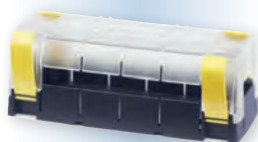
7087



7187



Related Products



2719 Enclosure p. 68

187-Series Circuit Breakers

Provides heavy duty circuit protection for 25 to 200 Amp loads when switching and circuit protection are both required

Features

- Single lever operation—clearly visible
- Trip-free—cannot be held closed after trip
- 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

IIC	Interrupting Capacity	5,000A @ 12V DC 3,000A @ 24V DC 1,500A @ 42V DC
Vmxo	Voltage Max. Operating	48V DC
Itr	Amperage Trip Reference	See table
Tmno	Temperature Min. Operating	-40°C
Tmxo	Temperature Max. 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.bluesea.com
Mounting Hole		Accepts #10 (M5) Screw

Regulatory

CE marked

Meets SAE J1171 external ignition protection requirements

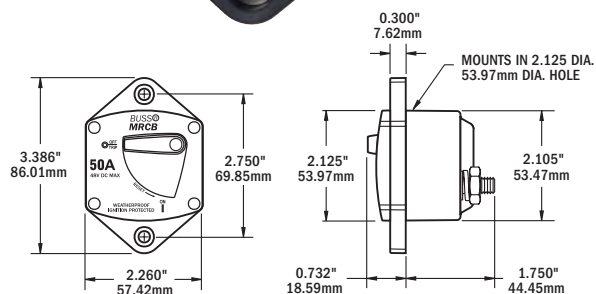
IP66—protected against powerful water jets (see inside back cover)

See page 126 for ABYC Interrupting Capacity Requirements.

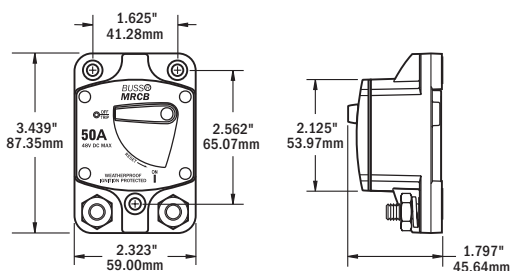
Panel Mount Part N°	Surface Mount Part N°	Itr Amps
7035	7135	25A DC
7036	7136	30A DC
7038	7138	40A DC
7039	7139	50A DC
7040	7140	60A DC
7041	7141	70A DC
7042	7142	80A DC
7043	7143	90A DC
7044	7144	100A DC
7046	7146	120A DC
7048	7148	150A DC
7049	7149	200A DC



Blue Sea Systems 187-Series Thermal Circuit Breakers are part of the electrical system aboard the Sabre Salon Express 48.



Panel Mount Dimensions



Surface Mount Dimensions

A-Series Toggle Circuit Breakers

Combines switching and circuit protection into a single device



7202

7200

7233

Features

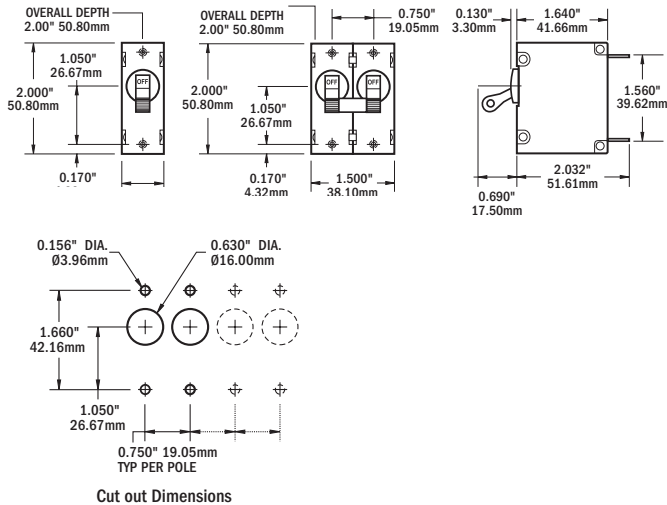
- The industry standard circuit breaker for Blue Sea Systems electrical panels
- Single pole is frequently used for AC or DC Branch circuit protection
- Double pole is typically used for AC Main circuit protection
- Trip Free— cannot be held closed after trip

Specifications

Iic	Interrupting Capacity	See Interrupting Capacity Table
Vmxo	Voltage Max. Operating	65V DC / 250V AC
Itr	Amperage Trip Reference	See table
Tmno	Temperature Min. Operating	-40°C
Tmxo	Temperature Max. Operating	85°C
Cs	Switching Cycles	10,000 @ rated amps and volts
Type		Magnetic Hydraulic—Trip free
Terminal Screw		#10-32 Stainless Steel
Terminal Screw Torque		14-15 in-lb Recommended
Trip Time Delay		See www.bluesea.com
Mounting Screw		#6-32 Stainless Steel (included)
Mounting Screw Torque		6-8 in-lb Recommended

Regulatory

CE marked, TUV certified, CSA certified, UL 1077 recognized



Part N°	Color	Poles	Itr DC Amps	Itr AC Amps	Part N°	Color	Poles	Itr DC Amps	Itr AC Amps
7200	Black	1	5A DC	5A AC	7232	Black	2	10A DC	10A AC
7201	Red	1	5A DC	5A AC	7233	White	2	10A DC	10A AC
7202	White	1	5A DC	5A AC	7234	Black	2	15A DC	15A AC
7347	Black	1	8A DC	8A AC	7235	White	2	15A DC	15A AC
7299	White	1	8A DC	8A AC	7348	Black	2	16A DC	16A AC
7204	Black	1	10A DC	10A AC	7294	White	2	16A DC	16A AC
7205	Red	1	10A DC	10A AC	7236	Black	2	20A DC	20A AC
7206	White	1	10A DC	10A AC	7260	White	2	20A DC	20A AC
7208	Black	1	15A DC	15A AC	7237	Black	2	30A DC	30A AC
7209	Red	1	15A DC	15A AC	7238	White	2	30A DC	30A AC
7210	White	1	15A DC	15A AC	7349	Black	2	32A DC	32A AC
7212	Black	1	20A DC	20A AC	7295	White	2	32A DC	32A AC
7213	Red	1	20A DC	20A AC	7239	Black	2	40A DC	40A AC
7214	White	1	20A DC	20A AC	7240	White	2	40A DC	40A AC
7216	Black	1	25A DC	25A AC	7241	Black	2	50A DC	50A AC
7217	Red	1	25A DC	25A AC	7242	White	2	50A DC	50A AC
7218	White	1	25A DC	25A AC					
7220	Black	1	30A DC	30A AC					
7221	Red	1	30A DC	30A AC					
7222	White	1	30A DC	30A AC					
7224	Black	1	40A DC	40A AC					
7225	Red	1	40A DC	40A AC					
7226	White	1	40A DC	40A AC					
7228	Black	1	50A DC	50A AC					
7229	Red	1	50A DC	50A AC					
7230	White	1	50A DC	50A AC					

Interrupting Capacity Table (see ABYC Requirements page 126)

			UL 1077 - UL/CSA (US/Canada)	EN60934 - TUV (Europe)
Poles	Vmxo Volts	Itr Amps	Iic Interrupt	Iic Interrupt
1 Pole	65V DC	5-50A	7,500A	-
	120V AC	5-50A	3,000A	-
	250V AC	5-50A	3,000A	1,500A
2 Pole	65V DC	10-50A	7,500A	-
	120V AC	10-50A	3,000A	-
	120/240V AC	10-50A	3,000A	-
	250V AC	10-50A	3,000A	1,500A

Circuit Breaker Mounting Options

- 3131 enclosure, strain reliefs included for secure installation of circuit breakers
- 3131 enclosure, accepts A-Series Toggle and A and C-Series Flat Rocker Circuit Breakers, LEDs (p. 116), and Square Format Labels (p. 117) for custom configurations
- 8072 and 8173 panels, accept A-Series Toggle Circuit Breakers, Large Format Labels (p. 117) and LEDs (p. 116)



3131

8072

8173

Part N°	Description	Width in (mm)	Height in (mm)	Depth in (mm)
3131	Circuit Breaker Enclosure	3.95 (100.36)	4.92 (124.91)	4.07 (103.40)
8072	Single pole mounting panel	2.63 (66.80)	3.75 (92.25)	0.125 (3.175)
8173	Double pole mounting panel	2.63 (66.80)	3.75 (92.25)	0.125 (3.175)

Related Products



360 Panel System p. 80

Traditional Metal Panel p. 81

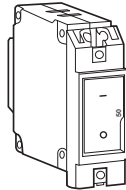
A-Series Rocker Circuit Breakers

Combines switching and circuit protection into a single device



**7403
Flat Rocker**

- Standard circuit breaker used on the 360 Panel System (1200 Series)
- Flat actuator resists accidental switching by being flush in the ON position



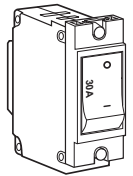
**7425
Restricted OFF Rocker**

- Actuator shows white in the OFF position
- Restricted OFF actuator can only be switched to OFF by insertion of small screwdriver into slot



**7574
Raised Rocker**

- Standard circuit breaker for AC Source Select panels in the 360 Panel System



Features

- White actuator indicates OFF position
- Single pole is available in Flat Rocker and Restricted Off styles
- Single pole is frequently used for AC or DC Branch circuit protection
- Double pole is available in Flat Rocker and Raised Rocker styles
- Double pole is typically used for AC Main circuit protection
- Raised Rocker actuator style is used for AC source selection on the 360 Panel System
- International ON and OFF symbols support vertical or horizontal mounting

Specifications

I_{ic}	Interrupting Capacity	See Interrupting Capacity table below
V_{mxo}	Voltage Max. Operating	32V DC / 250V AC
I_{tr}	Amperage Trip Reference	See table
T_{mno}	Temperature Min. Operating	-40°C
T_{mxo}	Temperature Max. Operating	85°C
C_s	Switching Cycles	10,000 @ rated amps and volts
Type		Magnetic Hydraulic—Trip free
Terminal Screw		#10-32 Stainless Steel
Terminal Screw Torque		14-15 in-lb Recommended (load terminal is 30° angled)
Trip Time Delay		See www.bluesea.com
Mounting Screw		#6-32 Stainless Steel (included)
Mounting Screw Torque		6-8 in-lb Recommended

Regulatory

CE marked, TUV certified, CSA certified, UL 1077 recognized

Interrupting Capacity Table (see ABYC Requirements page 126)

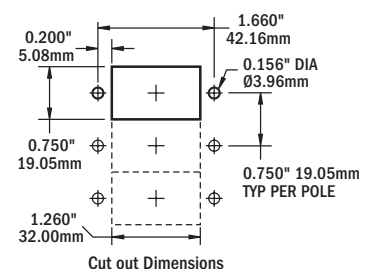
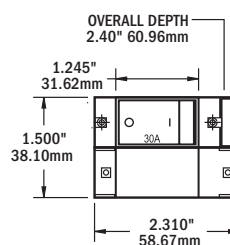
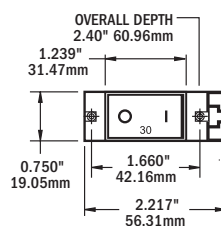
Poles	V _{mxo} Volts	I _{tr} Amps	UL 1077 - UL/CSA (US/Canada)	EN60934 - TUV (Europe)
			I _{ic} Interrupt	I _{ic} Interrupt
1 Pole	32V DC	5-50A	5,000A	-
	125V AC	5-50A	3,000A	-
	250V AC	5-50A	1,500A	1,500A
2 Pole	32V DC	10-50A	5,000A	-
	240V AC	10-50A	3,000A	-
	240V AC	10-50A	3,000A	1,500A

Part N°	Actuator Styles	Poles	I _{tr} DC Amps	I _{tr} AC Amps
7400	Flat Rocker	1	5A DC	5A AC
7425	Restricted Off	1	5A DC	5A AC
7401	Flat Rocker	1	8A DC	8A AC
7402	Flat Rocker	1	10A DC	10A AC
7427	Restricted Off	1	10A DC	10A AC
7403	Flat Rocker	1	15A DC	15A AC
7428	Restricted Off	1	15A DC	15A AC
7404	Flat Rocker	1	20A DC	20A AC
7429	Restricted Off	1	20A DC	20A AC
7405	Flat Rocker	1	25A DC	25A AC
7430	Restricted Off	1	25A DC	25A AC
7406	Flat Rocker	1	30A DC	30A AC
7407	Flat Rocker	1	40A DC	40A AC
7408	Flat Rocker	1	50A DC	50A AC
7433	Restricted Off	1	50A DC	50A AC
7410	Flat Rocker	2	10A DC	10A AC
7411	Flat Rocker	2	15A DC	15A AC
7412	Flat Rocker	2	16A DC	16A AC
7413	Flat Rocker	2	20A DC	20A AC
7574	Raised Rocker	2	30A DC	30A AC
7414	Flat Rocker	2	30A DC	30A AC
7575	Raised Rocker	2	32A DC	32A AC
7415	Flat Rocker	2	32A DC	32A AC
7416	Flat Rocker	2	40A DC	40A AC
7577	Raised Rocker	2	50A DC	50A AC
7417	Flat Rocker	2	50A DC	50A AC

Related Products



360 Panel System p. 91



AC ~ DC

C-Series Toggle Circuit Breakers

Combines switching and circuit protection into a single device

CIRCUIT PROTECTION AND SWITCHES



7250*



7267



7270



7251



7287

AC ~ DC

DC

AC ~

DC Features

- Large frame provides stud termination for 5-300 Amp loads
- Provides overcurrent protection for inverters, bow thrusters, and windlasses
- Offers high interrupt capacity—suitable for Main circuit protection
- Trip Free—cannot be held closed after trip

AC Features

- Frequently used for 120/240 Volt AC circuit protection
- Double pole can be used as AC Main circuit breaker to switch hot and neutral or two hots in 120/240 Volt AC Branch applications
- Triple pole can be used as 120/240 Volt AC Main circuit breaker to switch both lines (hots) and neutral
- Double and triple pole circuit breakers will trip all poles if any one pole trips

DC and AC Specifications

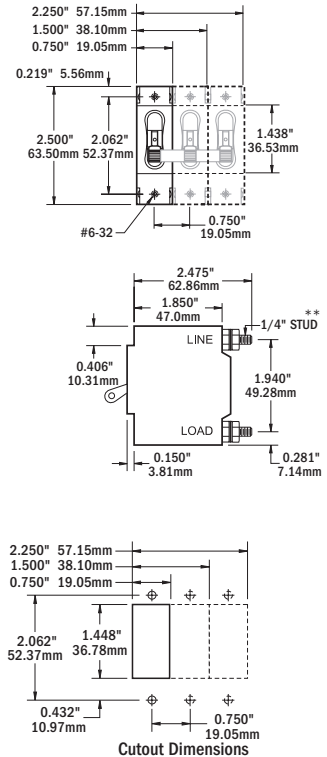
I_{ic}	Interrupting Capacity	See Interrupt Capacity Table
V_{mxo}	Voltage Max. Operating	See Interrupt Capacity Table
I_{tr}	Amperage Trip Reference	See table
T_{mno}	Temperature Min. Operating	-40°C
T_{mxo}	Temperature Max. Operating	85°C
C_s	Switching Cycles	10,000 @ rated amperage and voltage
Type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

Regulatory

7250I Only—meets SAE J1171, UL 1500, and ISO 8846 external ignition protection requirements

Part N°	Color	Poles†	I _{tr} DC Amps	I _{tr} AC Amps
7350	White	1	5A DC	5A AC
7351	White	1	10A DC	10A AC
7352	White	1	15A DC	15A AC
7353	White	1	20A DC	20A AC
7354	White	1	25A DC	25A AC
7355	White	1	30A DC	30A AC
7244	White	1	50A DC	50A AC
7246	White	1	60A DC	60A AC
7248	White	1	80A DC	80A AC
7250	White	1	100A DC	100A AC
7250I	Red	1	100A DC	100A AC
7365	White	2	-	30A AC
7251	White	2	-	50A AC
7254	White	2	-	60A AC
7256	White	2	-	80A AC
7258	White	2	-	100A AC
7267	White	2*	150A DC	-
7268	White	2*	175A DC	-
7269	White	2*	200A DC	-
7287	White	3	-	50A AC
7288	White	3	-	60A AC
7289	White	3	-	80A AC
7290	White	3	-	100A AC
7270	White	3*	250A DC	-
7271	White	3*	300A DC	-

* Paralleled poles have 5/16" stud on bus



Interrupting Capacity Table (see ABYC Requirements page 126)

			UL 1077 - UL/CSA (US/Canada)	EN60934 - TUV (Europe)
Poles*	V _{mxo} Volts	I _{tr} Amps	I _{ic} Interrupt	I _{ic} Interrupt
1 Pole*	80V DC	5-100A	10,000A	-
	125V AC	5-100A	5,000A	-
	250V AC	5-100A	5,000A	5,000A
1 Pole* PN 7250I	48V DC	100A	5,000A	-
	125V AC	100A	1,500A	-
2 and 3 Pole	65V DC	150-300A	5,000A†	-
	125/250V AC	30-100A	5,000A	5,000A
	250V AC	30-100A	5,000A	5,000A

† No agency approvals

Related Product



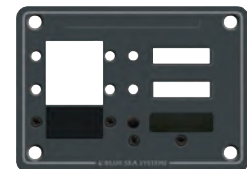
Traditional Metal Panel 7372 p. 91

C-Series Toggle Circuit Breaker Mounting Panels

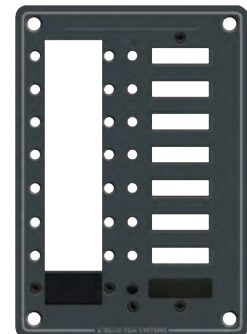
Simplifies mounting C-Series Toggle Circuit Breakers

- Accepts Blue Sea Systems Large Format Labels and ON indicating LEDs
- 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

Part N°	Description	Width in (mm)	Depth in (mm)
8088	3 position mounting panel	5.25 (133.35)	3.75 (95.25)
8087	8 position mounting panel	5.25 (133.35)	7.50 (190.50)
8089	Panel Plug Kit	-	-



8088



8087

AC ~ DC

C-Series Rocker Circuit Breakers

Combines switching and circuit protection into a single device



DC Features

- White actuator indicates OFF position
- Large frame provides stud termination for 5-300 Amp loads
- Flat rocker actuator is flush in the ON position, reducing the risk of accidental switching
- Provides overcurrent protection for inverters, bow thrusters, and windlasses
- Trip Free—cannot be held closed after trip

Specifications

I_{ic}	Interrupting Capacity	See Interrupt Capacity Table
V_mx_o	Voltage Max. Operating	See Interrupt Capacity Table
I_{tr}	Amperage Trip Reference	See table
T_mn_o	Temperature Min. Operating	-40°C
T_mx_o	Temperature Max. 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 (included)
Mounting Screw Torque		6-8 in-lb Recommended

Regulatory

Single-pole circuit breakers only—**CE** marked, meet SAE J1171, UL 1500 and ISO 8846 external ignition protection requirements, CSA certified, and UL 1077 recognized

AC Circuit breakers only—TUV certified, CSA certified, and UL 1077 recognized

AC and AC/DC Circuit breakers only—**CE** marked

AC Features

- Used for 120/240 Volt AC circuit protection
- Double pole can be used as AC Main circuit breaker to switch hot and neutral or two hots in 120/240 Volt AC Branch applications
- Triple pole can be used as 120/240 Volt AC Main circuit breaker to switch both lines (hots) and neutral
- Double and triple pole circuit breakers will trip all poles if any one pole trips

Part N°	Rocker Actuator	Poles	I _{tr} DC Amps	I _{tr} AC Amps
7540	Flat	1	5A DC	5A AC
7541	Flat	1	10A DC	10A AC
7542	Flat	1	15A DC	15A AC
7543	Flat	1	20A DC	20A AC
7545	Flat	1	30A DC	30A AC
7546	Flat	1	50A DC	50A AC
7547	Flat	1	60A DC	60A AC
7548	Flat	1	80A DC	80A AC
7549	Flat	1	100A DC	100A AC
7560	Flat	2	-	30A AC
7580	Raised	2	-	30A AC
7561	Flat	2	-	50A AC
7581	Raised	2	-	50A AC
7582	Raised	2	-	60A AC
7563	Flat	2	-	80A AC
7583	Raised	2	-	80A AC
7564	Flat	2	-	100A AC
7584	Raised	2	-	100A AC
7475	Flat	2*	150A DC	-
7476	Flat	2*	200A DC	-
7565	Flat	3	-	50A AC
7585	Raised	3	-	50A AC
7568	Flat	3	-	100A AC
7588	Raised	3	-	100A AC
7477	Flat	3*	250A DC	-
7554	Flat	3*	300A DC	-

Interrupting Capacity Table (see ABYC Requirements page 126)

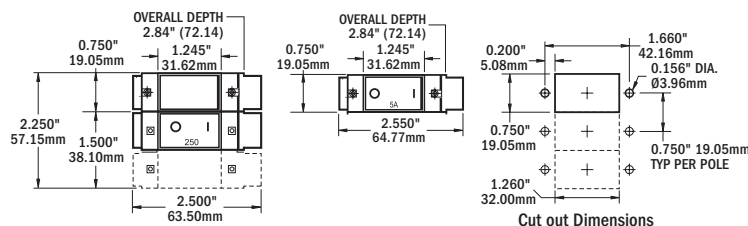
Poles	V _m x _o Volts	I _{tr} Amps	UL 1077 - UL/CSA (US/Canada)	EN60934 - TUV (Europe)
			I _{ic} Interrupt	I _{ic} Interrupt
1 Pole	32V DC	5-100A	5,000A	-
	120V AC	5-100A	3,000A	-
	240V AC	5-50A	3,500A	-
2 and 3 Pole	48V DC	150-300A	5,000A	-
	48V DC	150-200A	-	5,000A
	120/240V AC	30-100A	5,000A	-
	240V AC	30-100A	-	5,000A

* Paralleled poles have 5/16" stud on bus

Related Product



360 Panel System 1168 p. 91

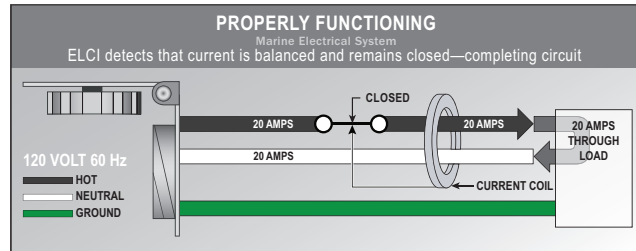


AC Ground Faults, the Boater, and ABYC Explained

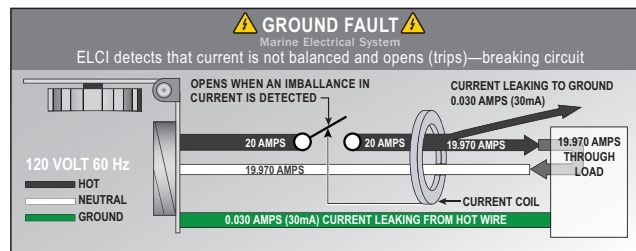
Understanding Equipment Leakage Circuit Interrupters (ELCIs) and Ground Fault Circuit Interrupters (GFCIs) to make your boat safer.

There are two potential failures in a boat's electrical system that can put people on or around the boat at risk of lethal electric shock.

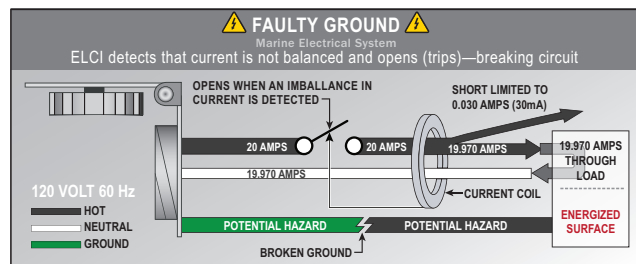
In a properly functioning marine electrical system, the same amount of AC current flows in the hot and neutral wires.



However, if electricity “leaks” from this intended path in these two wires to ground, this condition is called a ground fault. A good example of this is an insulation failure in the wiring of an appliance.



In addition, a faulty ground can occur when the grounding path is broken through a loose connection or broken wire. For instance, a shore power cord ground wire may fail due to constant motion and stress.



Faulty grounds can be undetectable; a simple continuity test will not necessarily reveal a problem. When these two conditions occur at the same time, the results may be tragic. The combination of a ground fault and a faulty ground can result in metal parts on the boat and under water becoming energized. If an electric drill with faulty internal wiring or a worn cord falls into the bilge, the water in the bilge will become energized, putting the worker and those nearby at risk.

In addition to the hazard to people on the vessel, there is a larger danger to swimmers near the boat. While people on board are likely to receive a shock from touching energized metal parts, nearby swimmers could receive a paralyzing dose of electricity and drown due to involuntary loss of muscle control.

A Coast Guard sponsored study showed numerous instances of electrical leakage causing drowning or potential drowning even though the shock did not directly cause electrocution.

Given the seriousness of the problem, ABYC requirements now include specific measures for avoiding this danger:

ABYC E-11.13.3.5 states:

If installed in a head, galley, machinery space, or on a weather deck, the receptacle shall be protected by a Type A (nominal 5 milliamperes) Ground Fault Circuit Interrupter (GFCI).

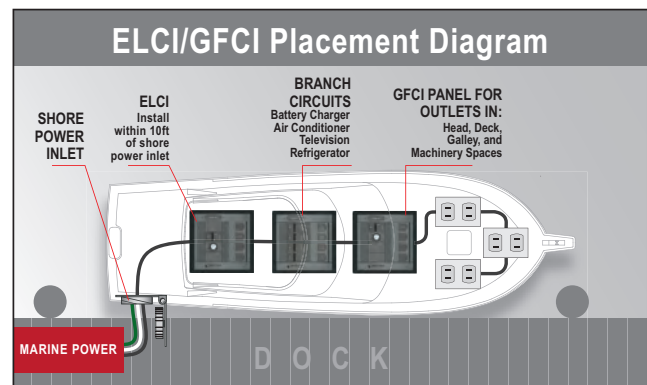
ABYC E-11.11.1 states:

An Equipment Leakage Circuit Interrupter (ELCI) shall be installed with or in addition to the main shore power disconnect circuit breaker(s) or at the additional overcurrent protection as required by E-11.10.2.8.3 whichever is closer to the shore power connection.

ELCIs, and the more familiar GFCIs (Ground Fault Circuit Interrupter), are part of a larger family of devices that measure current flow in the hot and neutral wires and immediately switch the electricity off if an imbalance of current flow is detected. ELCIs and GFCIs that are also RCBOs (Residual Current Circuit Breaker) provide overcurrent tripping protection characteristic of a normal circuit breaker.

GFCIs are used as branch circuit ground fault protection at the 5mA threshold in potentially wet environments. GFCIs protect against flaws in devices plugged into them, but offer no protection from the danger of a failing hard-wired appliance, such as a water heater or cooktop.

In contrast, an ELCI provides additional whole-boat protection. Installed as required within 10' of the shore power inlet, an ELCI provides 30mA ground fault protection for the entire AC shore power system beyond the ELCI. ABYC regulations still require the use of GFCIs in environments described above.



Although ABYC regulations apply only to new boat construction, ELCIs can mitigate dangers and liabilities that exist for any boat owner with a shore power connection. Retrofitting an ELCI to an existing AC system can be a worthwhile safeguard against risk. Since an ELCI/RCBO can serve as the main shore power circuit breaker, it can replace a standard circuit breaker in this application. Alternatively, an ELCI/RCBO can be added between the shore power inlet and the existing main shore power circuit breaker.

Safety ground system failures on boats are safety and liability disasters waiting to happen. ELCI protection on each shore power line, combined with protection afforded by GFCIs, will reduce risk to those on the boat, the dock, and in the water surrounding the boat.



Residual Current Circuit Breakers

GFCI Branch and ELCI Main



Scan to open
the ELCI
You Can Do It
Guide

Residual Current Devices (RCDs) respond to leakage of electrical current outside of the intended circuit path. When the RCD function is combined with a circuit breaker for over current protection, the device is often referred to as an RCBO. In the USA, a device that trips on leakages of nominally 5mA and meets certain standards is called a Ground Fault Circuit Interrupter (GFCI). A device meeting the same standards but with a trip level of 30mA is called an Equipment Leakage Circuit Interrupter (ELCI). The devices below provide GFCI Branch or ELCI Main functions and circuit protection in panel mounted breakers.

Features

- Trips on short circuit, overload, or leakage to ground
- For installation in a power distribution panel
- GFCI Branch - Provides overcurrent and leakage protection per ABYC E-11 for head, galley, machinery and weather deck receptacles
- ELCI Main - Provides overcurrent and leakage protection per ABYC E-11 for whole boat shore power protection

Specifications

Iic	Interrupting Capacity	5,000 Amps
Tmno	Temperature Min. Operating	-35°C
Tmno	Temperature Max. Operating	66°C
Cs	Switching Cycles	10,000 @ rated amperage and voltage
Type		Magnetic Hydraulic—Trip free
Mounting Screw		#6-32 Stainless Steel
Mounting Screw Torque		6-8 in-lb Recommended

Regulatory

3100— UL 1077, UL 943 Class A

3103, 3104, 3102100, 3106100, 3091, 3092, 3093— UL 1077, UL 943 Class A, UL 1500

AC and AC/DC Circuit Breakers Only— **CE** marked

Part N°	Description	Frame Series	Nominal Voltage	Actuator Style	Ignition Protected	Poles	Itr AC Amperage		Leakage Trip Amps
							MAIN	BRANCH	
3100	GFCI Branch	A-Series	120V AC per pole	Flat Rocker	-	1	-	15A	5mA
3102100	ELCI Main	A-Series	120V AC per pole	Flat Rocker	Yes	2	30A	-	30mA
3103	ELCI Main	C-Series	120V AC per pole	Flat Rocker	Yes	2	50A	-	30mA
3104	ELCI Main	C-Series	120/240V AC per pole	Flat Rocker	Yes	3	50A	-	30mA
3106100	ELCI Main	A-Series	120V AC per pole	White Toggle	Yes	2	30A	-	30mA
3091	ELCI Main	C-Series	230V AC per pole*	Flat Rocker	Yes	2	16A	-	30mA
3092	ELCI Main	C-Series	230V AC per pole*	Flat Rocker	Yes	2	32A	-	30mA
3093	ELCI Main	C-Series	240V AC per pole†	Flat Rocker	Yes	2	50A	-	30mA

* 230V AC, Typical of Europe

† 240V AC, For isolation transformer applications



3100



3102100



3103, 3091, 3092, 3093



3104



3106100

Related Products



SMS Surface Mount System
p. 56-57



Residual Current Circuit Breaker
GFCI Branch and ELCI Main Panels p. 91

AC SMS Surface Mount System

Panel enclosure for ELCI Main circuit breakers and other large frame devices. Meets ABYC E-11 when used with an ELCI Main circuit breaker and mounted within 10 feet of the shore power inlet

Features

- Models available with ELCI Main circuit breakers for 120V 30A, 120V 50A, and 120/240V 50A
- Blank apertures for custom breaker loading
- Glass filled polycarbonate base
- Clear cover allows easy view of circuit breaker status
- Overlapping cover for strength and increased gasket protection
- Oversized, formed in place seamless PUR gasket
- Easily removable stainless steel hinge pin for unobstructed installation
- Stainless steel latch secures cover without penetrating the enclosure
- Blank circuit positions accommodate Carling Technologies™ A and C Series Flat Rocker and ELCI Main circuit breakers
- Stainless steel mounting hardware included
- Includes waterproof glands (3116, 3118, 3119, 3120)
- Green LEDs for backlighting and ON indication (3116, 3118, 3119, 3120)

Specifications

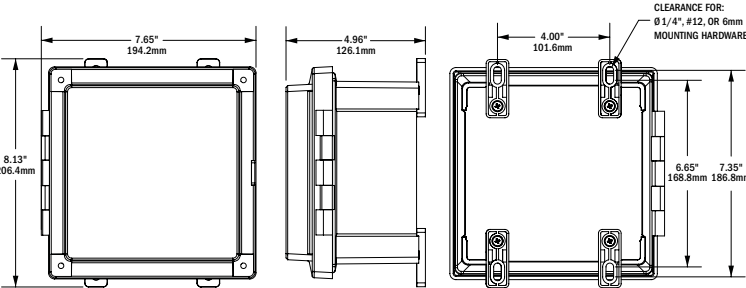
Enclosure Size	6.0" x 6.0" x 4.0"
	152 mm x 152 mm x 102 mm
Exterior Overall Dimensions	7.6" x 7.4" x 4.7"
	192 mm x 188 mm x 120 mm
Temperature Range	-40°C to 85°C
Cover Screws and Hardware	10-32 stainless steel
Mounting Hardware	Ø 1/4", #12, (6 mm)

Regulatory

- IP66—Protected against powerful water jets when cover is latched (see inside back cover)
- Flammability rating—Per UL 508
- Toxicity— Non-toxic, halogen free, RoHS compliant
- UL Listed and NEMA 4X rated, NEMA Type 4, 4X, 6, 6P, 12, and 13

Please contact Blue Sea Systems for circuit breaker configurations that are not included on this page.

See page 126 for ABYC Interrupting Capacity Requirements.



* SMS panel enclosures are pre-assembled and ready for wire connections. Customers must select wire and entry or exit locations, drill holes, and install the appropriate glands.

NEW



3116



SMS panel enclosure with glands installed*

Part N°	Description	Installed Circuit Breakers
3113	6 Blank Circuit Positions	-
3116	ELCI Main + 3 Blank Circuit Positions	1 ELCI Main 120V, 30A, 30mA
3117	120V AC ELCI 30A Dual	2 ELCI Main 120V 30A, 30mA
3118	ELCI Main + 2 Blank Circuit Positions	1 ELCI Main 120V 50A, 30mA
3119	ELCI Main + 1 Blank Circuit Position	1 ELCI Main 120/240V, 50A, 30mA
3120	ELCI Main + 2 Blank Circuit Positions	1 ELCI Main 240V, 50A, 30mA
3124	Small Gland PG7, #14 to #10 Single Wire	-
3125	Medium Gland PG16, #14 to #10 Single Wire	-
3126	Large Gland PG29, #8 Cable	-

Related Products



A-Series Toggle and Rocker Circuit Breakers p. 50-51



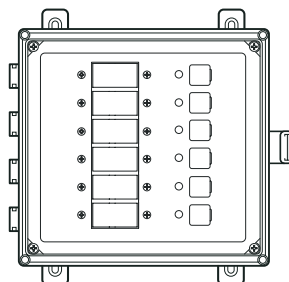
C-Series Rocker Circuit Breakers p. 63



ELCI Circuit Breakers p. 55



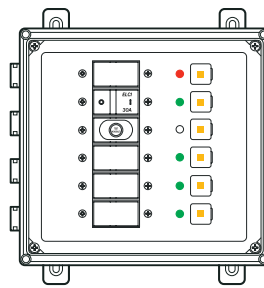
Circuit Breaker Enclosure p. 50



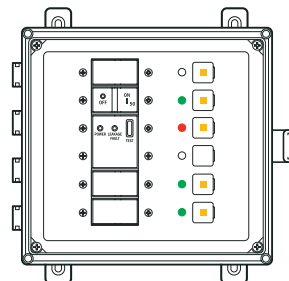
3113 6 Blank circuit positions

3113 SMS Panel Enclosure Includes:

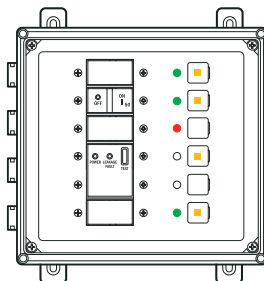
- 6 LED plugs
- 12 circuit breaker mounting screws
- 30 Basic DC labels, 4205
- 30 Basic AC labels, 4206
- Panel Voltage ID labels
- 12V DC, 24V DC
- 120V AC, 230V AC, 120/240V AC

3116 ELCI Main +
3 Blank circuit positions**3116 SMS Panel Enclosure Includes:**

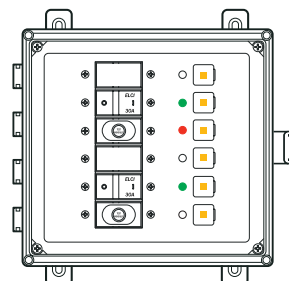
- 1 ELCI Main 120V 30A, 30mA, 3102100
- 2 small wire glands, 3124
- 3 medium wire glands, 3125
- 4 green "ON" indicating 120V AC LEDs, 8034
- 1 red "Reverse Polarity" indicating 120V AC LED, 8066
- 1 LED plug
- 12 circuit breaker mounting screws
- Backlit circuit label positions
- 1 AC Main label, 6520-0013
- 1 Reverse Polarity label, 6520-0360
- 1 ELCI label, 6520-0580
- 30 Basic AC labels, 4206
- Panel Voltage ID label-120V AC

3118 ELCI Main +
2 Blank circuit positions**3118 SMS Panel Enclosure Includes:**

- 1 ELCI Main 120V 50A, 30mA, 3103
- 2 small wire glands, 3124
- 1 medium wire gland, 3125
- 2 large wire glands, 3126
- 3 green "ON" indicating 120V AC LEDs, 8034
- 1 red "Reverse Polarity" indicating 120V AC LED, 8066
- 2 LED plugs
- 12 circuit breaker mounting screws
- Backlit circuit label positions
- 1 AC Main label, 6520-0013
- 1 Reverse Polarity label, 6520-0360
- 1 ELCI label, 6520-0580
- 30 Basic AC labels, 4206
- Panel Voltage ID label-120V AC

3119 ELCI Main +
1 Blank circuit position**3119 SMS Panel Enclosure Includes:**

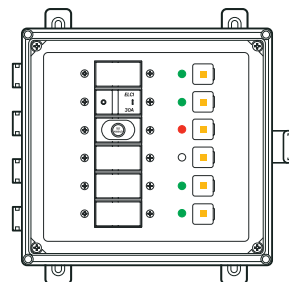
- 1 ELCI Main 120/240V, 50A, 30mA, 3104
- 2 small wire glands, 3124
- 1 medium wire gland, 3125
- 2 large wire glands, 3126
- 3 green "ON" indicating 120V AC LEDs, 8034
- 1 red "Reverse Polarity" indicating 120V AC LED, 8066
- 2 LED plugs
- 12 circuit breaker mounting screws
- Backlit circuit label positions
- 1 AC Main label, 6520-0013
- 1 Reverse Polarity label, 6520-0360
- 1 ELCI label, 6520-0580
- 30 Basic AC labels, 4206
- Panel Voltage ID label-120V/240V AC



3117 120V AC ELCI 30A Dual

3117 SMS Panel Enclosure Includes:

- 2 ELCI Main 120V 30A, 30mA, 3102100
- 2 small wire glands, 3124
- 4 medium wire glands, 3125
- 2 green "ON" indicating 120V AC LEDs, 8034
- 2 red "Reverse Polarity" indicating 120V AC LED, 8066
- 2 LED plug
- 12 Circuit breaker mounting screws
- 6 Backlit circuit label positions
- 2 AC Main label, 6520-0013
- 2 Reverse Polarity label, 6520-0360
- 2 ELCI label, 6520-0580
- 30 Basic AC labels, 4206
- Panel Voltage ID label-120V AC




3120 ELCI Main +
2 Blank circuit positions**NEW****3120 SMS Panel Enclosure Includes:**

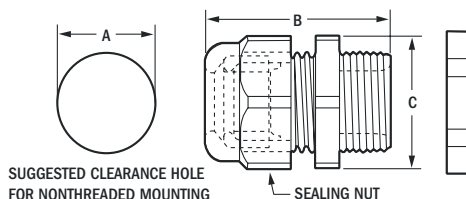
- 1 ELCI Main 240V, 50A, 30mA, 3093
- 2 small wire glands, 3124
- 1 medium wire gland, 3125
- 2 large wire glands, 3126
- 4 green "ON" indicating 120V AC LEDs, 8034
- 1 red "Reverse Polarity" indicating 120V AC LED, 8066
- 1 LED plugs
- 12 circuit breaker mounting screws
- Backlit circuit label positions
- 1 AC Main label, 6520-0013
- 1 Reverse Polarity label, 6520-0360
- 1 ELCI label, 6520-0580
- 30 Basic AC labels, 4206
- Panel Voltage ID label-120V/240V AC

KEY

- Red 120V AC LED
- Green 120V AC LED
- LED Plug
- Backlit circuit label position








Gland Specifications

	WIRE SIZE	CABLE DIA. RANGE		DIMENSIONS
		Min. Dia.	Max. Dia.	
 Small 3124	#14 to #10 Single Wire	.114 in 2.9 mm	.250 in 6.4 mm	A. Clearance Hole .492 in (12.5 mm) B. Max. O. A. Length 1.17 in (29.7 mm) C. Wrenching Flats .59 in (15.0 mm) Reference diagram below
 Medium 3125	#14 to #10 Cable	.230 in 5.8 mm	.530 in 13.9 mm	A. Clearance Hole .886 in (22.5 mm) B. Max. O. A. Length 1.66 in (42.2 mm) C. Wrenching Flats 1.05 in (26.7 mm) Reference diagram below
 Large 3126	#6 Cable	.590 in 15.0 mm	.990 in 25.4 mm	A. Clearance Hole 1.470 in (37.3 mm) B. Max. O. A. Length 2.23 in (56.6 mm) C. Wrenching Flats 1.66 in (42.2 mm) Reference diagram below



Circuit Breaker Comparison







DC Thermal Circuit Breakers*

Product	Push Button Reset-Only with Quick Connect Terminals	Push Button Reset-Only with Screw Terminals	Medium Duty Push Button Reset-Only*	285-Series Panel Mount	285-Series Surface Mount	187-Series Panel Mount	187-Series Surface Mount
							
Page N°	47	47	47	48	48	49	49
lic Interrupting Capacity	3,000A @ 14.7V DC 2,500A @ 28V DC	3,000A @ 14.7V DC 2,500A @ 28V DC	5,000A @ 32V DC 3,000A @ 120V AC*	3,000A @ 48V DC†	3,000A @ 48V DC†	5,000A @ 12V DC 3,000A @ 24V DC 1,500A @ 42V DC	5,000A @ 12V DC 3,000A @ 24V DC 1,500A @ 42V DC
Vmxo Max. Voltage	32V DC	32V DC	32V DC / 120V AC*	48V DC	48V DC	48V DC	48V DC
Available Amperages	3-40A	3-40A	15-60A	25-150A	25-150A	25-200A	25-200A
Regulatory	C E marked, UL 1077, TUV certified, UL 1500, ISO 8846	C E marked, UL 1077, TUV certified, UL 1500, ISO 8846	SAE J1428, SAE J553, UL 1077, UL 1500	C E marked, SAE J1171, IP67	C E marked, SAE J1171, IP67	C E marked, SAE J1171, IP66	C E marked, SAE J1171, IP66

* Medium Duty Push Button Reset-Only Circuit Breakers are AC/DC rated

† AIC ratings achieved using SAE J1625

AC ~ DC Thermal A-Series Circuit Breakers

Product	A-Series Toggle	A-Series Flat Rocker	A-Series Restricted Off Rocker	A-Series Toggle	A-Series Flat Rocker	A-Series Raised Rocker
						
Page N°	50	51	51	50	51	51
lic Interrupting Capacity DC	7,500A @ 65V DC	5,000A @ 32V DC	5,000A @ 32V DC	7,500A @ 65V DC	5,000A @ 32V DC	5,000A @ 32V DC
lic Interrupting Capacity AC	3,000A @ 120V AC 3,000A @ 250V AC	3,000A @ 125V AC 1,500A @ 250V AC	3,000A @ 125V AC 1,500A @ 250V AC	3,000A @ 120V AC 3,000A @ 120/240V AC 3,000A @ 250V AC	3,000A @ 240V AC	3,000A @ 240V AC
Vmxo Max. Voltage DC	65V DC	32V DC	32V DC	65V DC	32V DC	32V DC
Vmxo Max. Voltage AC	250V AC	250V AC	250V AC	250V AC	240V AC	240V AC
Poles	1	1	1	2	2	2
Available Amperages	5-50A	5-50A	5-50A	10-50A	10-50A	10-50A
Regulatory	C E marked, TUV certified, CSA certified, UL 1077	C E marked, TUV certified, CSA certified, UL 1077	C E marked, TUV certified, CSA certified, UL 1077	C E marked, TUV certified, CSA certified, UL 1077	C E marked, TUV certified, CSA certified, UL 1077	C E marked, TUV certified, CSA certified, UL 1077

AC ~ GFCI Branch and ELCI Main Circuit Breakers

Product	GFCI Branch	ELCI Main	ELCI Main	ELCI Main	ELCI Main	ELCI Main
						
Page N°	55	55	55	55	55	3091* (55) 3092* (55) 3093† (55)
lic Interrupting Capacity AC	5,000A	5,000A	5,000A	5,000A	5,000A	5,000A 5,000A 5,000A
Nominal Voltage	120V per pole	120V per pole	120V per pole	120V per pole	120/240V per pole	230V per pole 230V per pole 240V per pole
Amperage	15A	30A	30A	50A	50A	16A 32A 50A
Leakage Trip Amps	5mA	30mA	30mA	30mA	30mA	30mA 30mA 30mA
Regulatory	UL 1077, UL 943 Class A	UL 1077, UL 943 Class A, UL 1500	UL 1077, UL 943 Class A, UL 1500	UL 1077, UL 943 Class A, UL 1500	UL 1077, UL 943 Class A, UL 1500	UL 1077, UL 943 Class A, UL 1500 UL 1077, UL 943 Class A, UL 1500 UL 1077, UL 943 Class A, UL 1500





* 230V AC, Typical of Europe

† 240V AC, For isolation transformer applications







AC~ DC== C-Series Circuit Breakers

Product Style	C-Series Toggle	C-Series Toggle	C-Series Flat Rocker
			
Page N°	52	52	53
I_{ic} Interrupting Capacity DC	10,000A @ 80V DC	10,000A @ 80V DC	5,000A @ 32V DC
I_{ic} Interrupting Capacity AC	5,000A @ 125V AC 5,000A @ 250V AC	5,000A @ 125V AC 5,000A @ 250V AC	3,000A @ 120V AC 3,500A @ 240V AC
V_{mxo} Max. Voltage DC	80V DC	80V DC	32V DC
V_{mxo} Max. Voltage AC	250V AC	250V AC	240V AC
Poles	1	1	1
Available Amperages	5-100A	100A	5-100A
Regulatory	-	SAE J1171, UL 1500, ISO 8846	C ϵ marked, SAE J1171, UL 1500, ISO 8846, CSA certified, UL 1077

DC== C-Series Circuit Breakers

Product Style	C-Series Toggle	C-Series Flat Rocker	C-Series Toggle	C-Series Flat Rocker
				
Page N°	52	53	52	53
I_{ic} Interrupting Capacity DC	5,000A @ 65V DC	5,000A @ 48V DC	5,000A @ 65V DC	5,000A @ 48V DC
V_{mxo} Max. Voltage DC	65V DC	48V DC	65V DC	48V DC
Poles	2	2	3	3
Available Amperages	150-200A	150-200A	250-300A	250-300A
Regulatory	-	-	-	-

AC~ C-Series Circuit Breakers

Product Style	C-Series Toggle	C-Series Raised Rocker	C-Series Flat Rocker	C-Series Toggle	C-Series Raised Rocker	C-Series Flat Rocker
						
Page N°	52	53	53	52	53	53
I_{ic} Interrupting Capacity AC	5,000A @ 125/250V AC 5,000A @ 250V AC	5,000A @ 120/240V AC 5,000A @ 240V AC	5,000A @ 120/240V AC 5,000A @ 240V AC	5,000A @ 125/250V AC 5,000A @ 250V AC	5,000A @ 120/240V AC 5,000A @ 240V AC	5,000A @ 120/240V AC 5,000A @ 240V AC
V_{mxo} Max. Voltage AC	250V AC	240V AC	240V AC	250V AC	240V AC	240V AC
Poles	2	2	2	3	3	3
Available Amperages	30-100A	30-100A	30-100A	50-100A	50-100A	50-100A
Regulatory	-	C ϵ marked, TUV certified, CSA certified, UL 1077	C ϵ marked, TUV certified, CSA certified, UL 1077	-	C ϵ marked, TUV certified, CSA certified, UL 1077	C ϵ marked, TUV certified, CSA certified, UL 1077

Water Resistant Contura Switches

Specifically manufactured for use in Blue Sea Systems Contura Water Resistant Panels



7929
Contura II



8230
Contura III



8282
Contura III

Use of non Blue Sea Systems Contura Switches will not maintain the water resistant ingress protection rating of Blue Sea Systems panels.

- Vibration, shock, thermoshock, moisture and salt spray resistant
- Mounts in Blue Sea Systems Contura Water Resistant Panels (p. 79) and Contura Switch Mounting Panels (p. 61)

Specifications

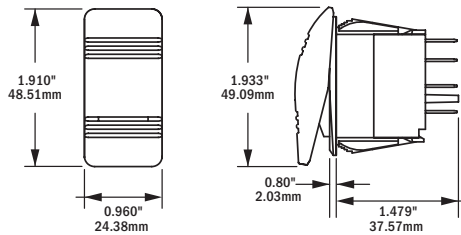
Imx	Amperage Max. Operating	20A @ 12V DC, 15A @ 24V DC
Ioc (LED)	Amperage Operating Current	18 Milliamps
Lighted		LED rated 100,000 hours 1/2 life
Seals		Internal and external gasket panel seal
Temperature Rating		-40°C to 85°C
Mounting Hole		1.45 in x 0.83 in (36.83 mm x 21.08 mm)

Regulatory

Meets UL 1500 and ISO 8846 external ignition protection requirements

Part N° Contura II Black	Part N° Contura III Gray	Part N° Contura III Black	Actuator Position to Light LED	Pole Throw	Action ()=momentary	LEDs
7929	8230	8282	ON	SPST	OFF-ON	1
7930	8231	8292	-	SPST	OFF-(ON)	0
7931	8232	8283	ON	SPDT	ON-OFF-ON	2
7932	8233	8284	ON	SPDT	(ON)-OFF-ON	1
7933	8234	8285	-	SPDT	(ON)-OFF-(ON)	0
7943	7944	7945	(ON)	SPDT	(ON)-OFF-ON	1
7934	8218	8287	ON	DPST	OFF-ON	1
7935	8219	8288	-	DPST	OFF-(ON)	0
7936	8220	8286	ON	DPDT	ON-OFF-ON	2
7937	8221	8289	ON	DPDT	(ON)-OFF-ON	1
7938	8222	8290	-	DPDT	(ON)-OFF-(ON)	0
7939	8275	-	ON	DPDT	ON-ON	2

See p.63 for common applications



Related Products



Contura Circuit
Breaker Panels p. 79



Contura Fuse Panels p. 79

Water Resistant Contura Dimmer Switches

Ideal control switch for Blue Sea Systems DeckHand Dimmers (p. 11)



8216



8291

- Mounts in Blue Sea Systems Contura Water Resistant Panels (p. 79) and Contura Switch Mounting Panels (p. 61)
- Legend-BRIGHT and DIM
- Ignition Protected—safe for installation aboard gasoline powered boats

Specifications

Imxo	Amperage Max. Operating	20A @ 12V DC, 15A @ 24V DC
Pole, Throw		SPDT
Action		(ON)-OFF-(ON)
Terminal Size		0.25 in (6.35 mm)
Terminal Type		Quick Connect Tab
Seals		Internal and External Gasket Panel Seal
Temperature Rating		-40°C to 85°C
Mounting Hole		1.45 x 0.83 in (36.83 x 21.08 mm)

Related Products



DeckHand Dimmers p. 11

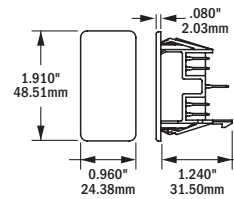
Part N°	Color
8216	Gray
8291	Black

Contura Switch Mounting Panel Plug

Covers Contura Switch mounting hole for future switch installation



8278



Part N°	Description
8278	Contura Switch Mounting Panel Plug

- For use with Contura Switch Mounting Panels

Contura Switch Actuators

Replaces actuators on Blue Sea Systems Contura Water Resistant Panels



8297



8294



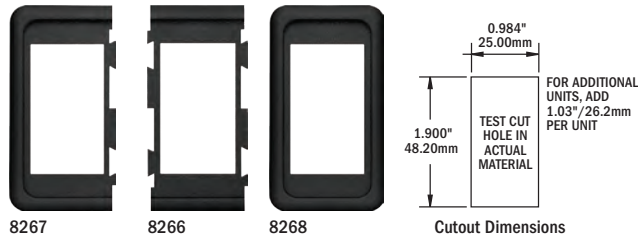
8293

- Mounts on any Blue Sea Systems Water Resistant Contura Switch

Part N° Gray	Part N° Black	Number of Lenses	Embedded LEDs
8299	8296	-	-
8297	8294	1	1
8298	8295	2	2
8293		Actuator Removal Tool	

Contura Switch Mounting Panels

Modular design permits assembly in groups of varying sizes



- Mounting panels available in 1, 3, and 6 fixed position models
- Designed for mounting in 6 different panel thicknesses:

0.06 in (1.57 mm)	0.09 in (2.36 mm)	0.13 in (3.17 mm)
0.19 in (4.75 mm)	0.25 in (6.35 mm)	0.38 in (9.52 mm)

Part N°	Description	Width in (mm)	Height in (mm)
8267	End Mounting Panel	1.19 (30.23)	2.30 (58.42)
8266	Center Mounting Panel	1.03 (26.16)	2.30 (58.42)
8268	1 Position Mounting Panel	1.34 (34.04)	2.30 (58.42)
8259	3 Position Mounting Panel	3.40 (86.36)	2.30 (58.42)
8260	6 Position Mounting Panel	6.49 (164.85)	2.30 (58.42)

Remote Control Contura Switches

Provide remote switching of ML-Series, and SafetyHub 250 Fuse Block

Features

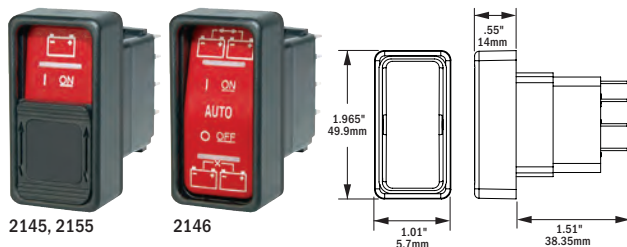
- Vibration, shock, thermoshock, moisture and salt spray resistant
- Lockout slide reduces the risk of accidental switching 2145 and 2155

Specifications

Imxo	Amperage Max. Operating	20A @ 12V DC, 15A @ 24V DC
loc (LED)	Amperage Operating Current	18mA
	Temperature Range	-40°C - 85°C
	Pole/Throw	SPDT
	Lighting	LED rated 100,000 hours half-life
	Seals	Internal and external gasket panel seal
	Mounting Hole	1.45" x 0.83" (36.83 mm x 21.08 mm)

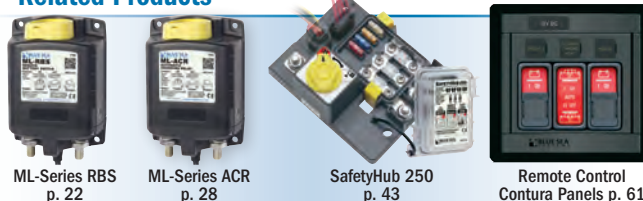
Regulatory

Meets UL 1500 and ISO 8846 external ignition protection requirements
IP67—protected against immersion up to 1 meter for 30 minutes
(see inside back cover)



Part N°	For Use With:	Pole Throw	Action ()=momentary
2145	ML-Series Solenoids, 7701 and 7703 (p. 21) ML-Series Remote Battery Switches, 7700 and 7702 (p. 22)	SPDT	(ON)-OFF-(ON)
2146	ML-Series Automatic Charging Relays, 7620, 7622, 7621, and 7623 (p. 28)	SPDT	ON-OFF-ON
2155	SafetyHub 250 Fuse Block, 7727 (p. 22) ML-Series Remote Battery Switches, 7712 and 7714 (p. 43)	SPDT	ON-ON

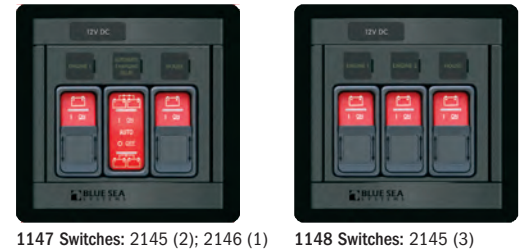
Related Products



Remote Control Contura Switch 360 Panels

Use with ML-Series Remote Battery Switches or Automatic Charging Relays

- Backlit labels
- Lockout slides
- Square format label set 4218 (p. 117)



Part N°	Description	Max. Volts	Width in (mm)	Height in (mm)	Depth in (mm)
1147	2 RBS and 1 ACR switch panel	24V DC	4.88 (123.83)	4.75 (120.65)	2.00 (50.80)
1148	3 RBS switch panel	24V DC	4.88 (123.83)	4.75 (120.65)	2.00 (50.80)
1520	Blank switch panel accepts 3 Switches	-	4.88 (123.83)	4.75 (120.65)	0.125 (3.175)

360 Panel Rocker Switches

Provides switching options for specific pole and throw configurations

Specifications

Imxo	Amperage Max. Operating	See table below
	Single Pole Terminal Type	Quick Connect Tab
	Single Pole Terminal Size	0.187 in (4.80 mm) Quick Connect Tabs
	Double Pole Terminal Type	6.00 in (152.00 mm) Wire Leads

Part N°	Pole-Throw	Illustration Below	Action () = Momentary	Imxo Amperage Maximum Operating			
				12 Volts DC	24 Volts DC	125 Volts AC	250 Volts AC
7480	SPST	1	OFF-ON	10 Amps	10 Amps	10 Amps	10 Amps
7481	SPST	1	OFF-(ON)	10 Amps	10 Amps	12 Amps	6 Amps
7482	SPDT	2	ON-OFF-ON	10 Amps	8 Amps	8 Amps	8 Amps
7483	SPDT	2	(ON)-OFF-ON	10 Amps	8 Amps	8 Amps	8 Amps
7484	SPDT	2	(ON)-OFF-(ON)	10 Amps	8 Amps	8 Amps	8 Amps
7485	SPDT	4	(ON)-OFF-(ON)	10 Amps	8 Amps	8 Amps	8 Amps
7490	DPST	1	OFF-ON	5 Amps	5 Amps	8 Amps	4 Amps
7491	DPDT	3	ON-ON	5 Amps	5 Amps	8 Amps	4 Amps
7492	DPDT	2	ON-OFF-ON	5 Amps	5 Amps	8 Amps	4 Amps
7493	DPDT	3	ON-(ON)	5 Amps	5 Amps	8 Amps	4 Amps
7494	DPDT	2	(ON)-OFF-ON	5 Amps	5 Amps	8 Amps	4 Amps
7495	DPDT	2	(ON)-OFF-(ON)	5 Amps	5 Amps	8 Amps	4 Amps



Recommended Panel Opening

PANEL THICKNESS	A	B
.030" (.76mm)–.050" (1.27mm)	.508" (12.90mm)	.756" (19.20mm)
.050" (1.27mm)–.078" (1.98mm)	.508" (12.90mm)	.764" (19.40mm)
.078" (1.98mm)–.125" (3.17mm)	.508" (12.90mm)	.780" (19.81mm)

Dual Bilge Pump 360 Panel **NEW**

Controls two bilge pumps with restricted-off circuit breakers and manual override switches

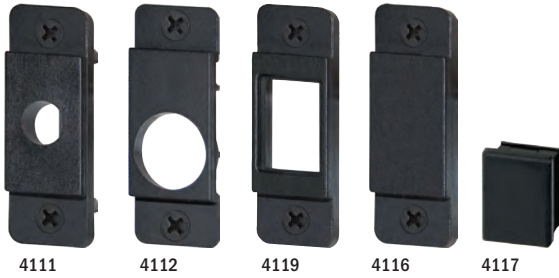
- Controls two bilge pumps
- Restricted off circuit breakers provide 24-hour circuit protection to the bilge pump float switch.
- On-indicating LED indicates power is available at the bilge pump float switch.
- Manual Override switch with On-indicating LED provides visual indication pump is running; also illuminates when pump is running as a result of float switch operation.



Part N°	Description	Width in (mm)	Height in (mm)
1522	Dual Bilge Pump Control Panel	4.88 (123.83)	4.75 (120.65)

360 Panel Adapters and Plugs

Adapters allow mounting alternative switches and circuit breakers in the flat rocker aperture. Plugs fill empty flat rocker apertures.



Part N°	Description
4111	Adapts Push Button Reset-Only Circuit Breaker (p. 47)
4112	Adapts A-Series Toggle Circuit Breaker (p. 50) and Panel Switch
4119	Adapts Rocker Switch (p. 51)
4116	Panel Plug fills flat rocker circuit breaker aperture
4117	Panel Plug fills 360 Panel Rocker Switch aperture
8037	Panel Plugs fill Toggle Circuit Breaker aperture (sold in packages of 6)

WeatherDeck™ Toggle Switches

Available in a variety of configurations for specific circuit requirements



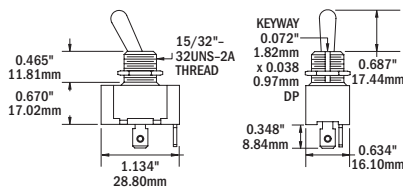
- Manufactured for use in WeatherDeck® Waterproof Panels (p. 77)
- Nickel-plated brass and phenolic non-corrosive construction

Specifications

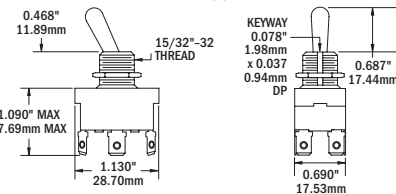
	4150-4154	4155
Imxo Amperage Max. Operating	10A @ 250V AC 15A @ 125V AC 15A @ 12V DC	- - 5A @ 30V DC
Vmxo Voltage Max. Operating	250V AC	30V DC
Terminal Size	0.25 in (6.35 mm)	0.25 in (6.35 mm)
Terminal Type	Quick Connect Tab	Quick Connect Tab

Part N°	Pole/Throw	Action () = Momentary
4150	SPST	OFF-ON
4151	SPST	OFF-(ON)
4152	SPDT	ON-OFF-ON
4153	SPDT	(ON)-OFF-ON
4154	SPDT	(ON)-OFF-(ON)
4155	DPDT	ON-OFF-ON

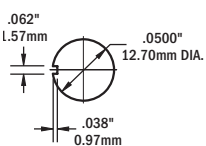
4150-4154



4155



Cutout Dimensions



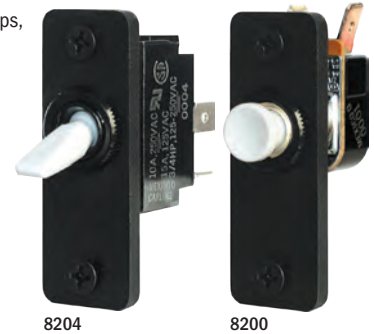
Related Products



Panel Switches

Mounts in an A-Series toggle circuit breaker aperture to provide multiple throw and switch configurations when circuit protection is provided elsewhere

- Ideal for generator starters, bilge pumps, horns, wipers, engine controls and other applications that require switching action other than ON-OFF or different pole configuration separate from circuit protection
- Mounts in Blue Sea Systems A-Series Toggle Circuit Breaker Panels
- For use with A-Series Toggle Circuit Breaker Mounting Panel (p. 50)
- Supplied with mounting adapter for standard 5/8" circuit breaker mounting hole
- Nickel-plated brass and phenolic non-corrosive construction



Specifications

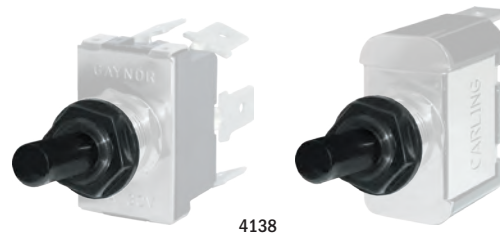
	Toggle Switches	Push Button Switch
Imxo Amperage Max. Operating	10A @ 250V AC 15A @ 125V AC 15A @ 32V DC	3A @ 250V AC 6A @ 125V AC 6A @ 32V DC
Terminal Size	0.25 in (6.35 mm)	0.25 in (6.35 mm)
Terminal Type	Quick Connect Tab	Quick Connect Tab
Actuator Color	White	White

Part N°	Actuator	Pole/Throw	Action () = Momentary
8200	Push Button	SPST	OFF-(ON)
8204	Toggle	SPST	OFF-ON
8205	Toggle	SPST	OFF-(ON)
8206	Toggle	SPDT	ON-OFF-ON
8207	Toggle	SPDT	(ON)-OFF-ON
8208	Toggle	SPDT	(ON)-OFF-(ON)
8209*	Toggle	DPST*	OFF-ON-(ON) OFF-OFF-(ON)
8210	Toggle	DPST	OFF-ON
8211	Toggle	DPDT	ON-OFF-ON
8212	Toggle	DPDT	(ON)-OFF-ON

* Progressive two circuit switch - maintains circuit one while momentarily switching circuit two

WeatherDeck™ Toggle Switch Boot

Replaces boots found on all WeatherDeck™ panels



- For mounting on WeatherDeck™ Waterproof Panel Switches (p. 77)
- UV resistant material resists discoloration and cracking
- Rated IP67—protected against immersion up to 1 meter for 30 minutes

Specifications

Thread Material	Nickel Plated Brass
Thread	15/32"-32UNS-2A

Switch Comparison

Switch Type and Action Legend

SPST Single Pole, Single Throw:

Turns a single circuit on and off.

SPDT Single Pole, Double Throw:

Turns one of two circuits on.

DPST Double Pole, Single Throw:

Turns two circuits on at the same time.

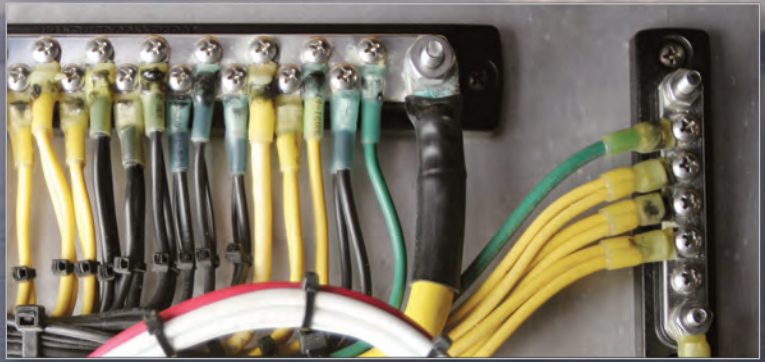
DPDT Double Pole, Double Throw:

Controls two functions on two circuits.

() = Momentary

- Center Terminal Switch Lever
- Terminal
- Off Position

Switch Type and Action		Common Applications	Contura II Black p. 60	Contura III Gray p. 60	Contura III Black p. 60	Contura ML Control p. 61	360 Panel Rockers p. 61	WeatherDeck® Toggle p. 62	Panel Switch Push Button p. 62	Panel Switch Toggle p. 62
SPST	OFF-ON	Lights	7929	8230	8282	-	7480	4150	-	8204
SPST	OFF-(ON)	Horn or Windshield wipers	7930	8231	8292	-	7481	4151	8200	8205
SPDT	ON-OFF-ON	Combining nav lights or anchor light with independent bulbs	7931	8232	8283	2146	7482	4152	-	8206
SPDT	(ON)-OFF-ON	Windshield wipers LED - ON	7932	8233	8284	-	7483	4153	-	8207
		Bilge pumps LED - (ON)	7943	7944	7945	-	-	-	-	-
SPDT	ON-ON	Control switch for SafetyHub 250 and ML-Series RBS 7712 and 7714	-	-	-	2155	-	-	-	-
SPDT	(ON)-OFF-(ON)	Intermittent wiper, Trim tabs, Control switch for ML-Series RBS except 7712 and 7714	7933	8234	8285	2145	7484, 7485	4154	-	8208
DPST	OFF-ON	Navigational lights	7934	8218	8287	-	7490	-	-	8210
DPST	OFF-(ON)	Wipers or horn	7935	8219	8288	-	-	-	-	-
DPST	OFF-ON-(ON) OFF-OFF-(ON)	Combining nav lights and anchor lights with shared switch	-	-	-	-	-	-	-	8209
DPDT	ON-OFF-ON	Combining nav lights with anchor light with shared bulb	7936	8220	8286	-	7492	4155	-	8211
DPDT	(ON)-OFF-ON	Dual wipers	7937	8221	8289	-	7494	-	-	8212
DPDT	(ON)-OFF-(ON)	Power operated hatches	7938	8222	8290	-	7495	-	-	-
DPDT	ON-(ON)	Bilge pump with 2 circuits	-	-	-	-	7493	-	-	-
DPDT	ON-ON	Switching between shunts or current transformers with one meter	7939	8275	-	-	7491	-	-	-



SAFE Boats relies on Blue Sea Systems products, like BusBars, to build a trouble-free electrical system aboard the 380X Defender.



CONNECTORS AND INSULATORS

The nuts and bolts of any electrical system are the connectors which keep the current flowing. Blue Sea Systems connectors reduce heat and improve efficiency and reliability in a boat's electrical system. The features below make Blue Sea Systems connectors stand out from the others:

Tin-plated copper buses provide maximum conductivity and corrosion resistance.

Insert-molded stainless steel studs eliminate the need for securing nuts and allow high torquing for excellent electrical contact.

UL 94-V0 rated base materials resist high heat.

Stainless steel split ring lock washers and captive star-type lock washers keep connections tight in high vibration environments.

Optional insulating covers meet ABYC and USCG insulation requirements.

SECTION INDEX

BUSBARS

MiniBus 100A Common BusBars	66
DualBus 100A Common BusBars	66
DualBus Plus 150A Common BusBars	66
150A Common BusBars	67
MaxiBus 250A Common BusBars	68
PowerBar Common BusBars	69
PowerBar 600A Common BusBars	69

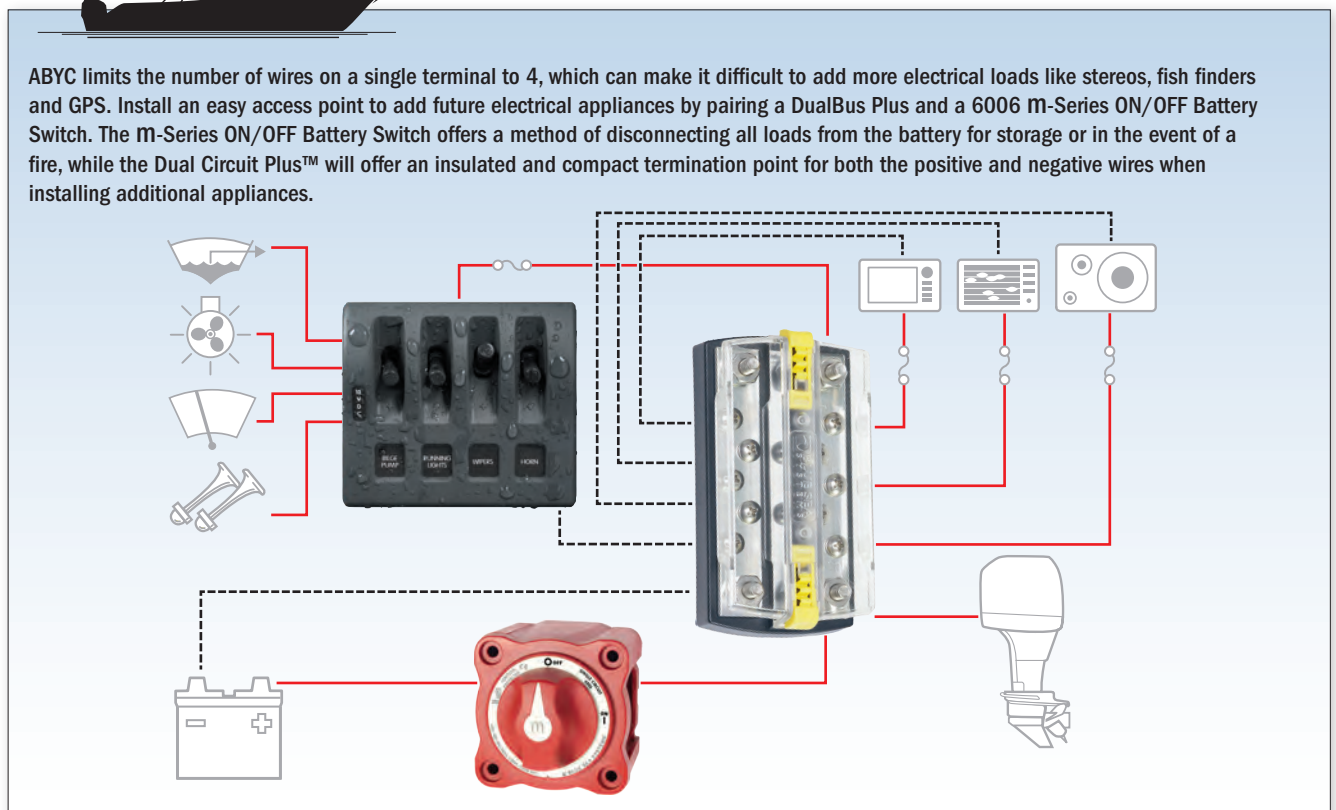
TERMINAL BLOCKS

Terminal Blocks	69
Terminal Block Jumpers	69

CONNECTORS

Terminal Feed Through Connectors	70
PowerPost Cable Connectors	70
PowerPost Plus Cable Connectors	70
Dual PowerPost Cable Connectors	70
Connector Comparison	71
Rotating CableCap Insulators	72
Standard CableCap Insulators	72
Automotive CableCap Insulators	72
Square CableCap Insulators	72
Stud CableCap Insulators	72
Dual Entry PowerPost Cable Insulator	72
CableClams	73

SUBSYSTEM



AC ~ DC

MiniBus 100A Common BusBars

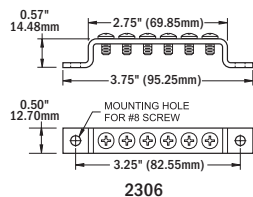
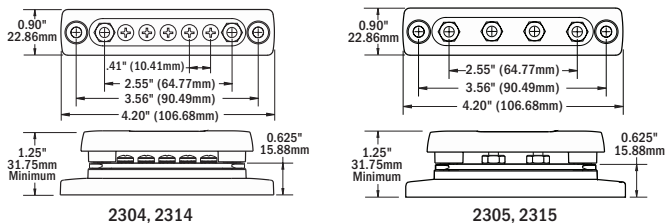
Provides convenient busing for limited space applications

Specifications

Ic	Continuous Rating	100A AC/DC*
Vmxo	Voltage Max. Operating	300V AC/48V DC
Mounting Holes		Accepts #10 (M5) Screws†
Bus Material		Tin-Plated Copper CDA 110/UNS C11000

Regulatory
CE certified

Part N°	Cover	Terminal Screw	Terminal Stud
2304	-	5 × #8-32	2 × #10-32
2314	Yes	5 × #8-32	2 × #10-32
2305	-	-	4 × #10-32
2315	Yes	-	4 × #10-32
2306	-	6 × #8-32	-
2713	Cover For MiniBus 2304 and 2305		



DualBus 100A Common BusBars

Combines two buses on one block

- Combines negative and positive buses for DC Systems and neutral and ground buses for AC Systems

Specifications

Ic	Continuous Rating	100A AC/DC
Vmxo	Voltage Max. Operating	300V AC/48V DC
Bus Material		Tin-Plated Copper CDA 110/UNS C11000

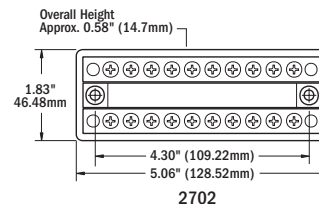
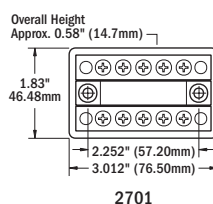
Regulatory
CE Certified

See page 68 for compatible enclosure 2718



See page 68 for compatible enclosure 2719

Part N°	Cover	Terminal Screw	Mounting Holes
2701	-	5 per bus × #8-32	Accept #10 (M5) Screws
2702	-	10 per bus × #8-32	Accept #10 (M5) Screws
2709	Cover for BusBar 2701		
2710	Cover for BusBar 2702		



DualBus Plus 150A Common BusBars

Secure, clear polycarbonate cover snaps on easily to meet USCG and ABYC insulation requirements

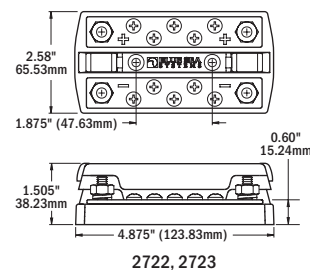
- Combines negative and positive buses on one block
- Cover release buttons



Specifications

Ic	Continuous Rating	130A AC/150A DC
Vmxo	Voltage Max. Operating	300V AC/48V DC
Mounting Holes		Accept #10 (M5) Screws
Bus Material		Tin-Plated Copper CDA 110/UNS C11000

Part N°	Terminal Screw	Terminal Stud
2722	5 per bus × #10-32	2 per bus × 1/4"-20 Stud
2723	5 per bus × #10-32	2 per bus × 5/16"-18 Stud



* 2306 is DC Only rated † 2306 mounting holes accept # 8 screws

AC ~ DC

150A Common BusBars

Insert-molded stainless steel studs eliminate the need for securing nuts and allow high torquing for excellent electrical contact

- The industry standard bus bar for positive distribution and for the collection of negative or AC ground circuits

Specifications

Ic	Continuous Rating	130A AC/150A DC
Vmxo	Voltage Max. Operating	300V AC/48V DC
Mounting Holes		Accepts #10 (M5) Screws
Bus Material		Tin-Plated Copper CDA 110/UNS C11000

Regulatory

CE certified

Part N°	Cover	Terminal Screw	Terminal Stud
2301	-	10 × #8-32	2 × 1/4"-20
2300	Yes	10 × #8-32	2 × 1/4"-20
2302	-	20 × #8-32	2 × 1/4"-20
2312	Yes	20 × #8-32	2 × 1/4"-20
2303	-	-	4 × 1/4"-20
2307	Yes	-	4 × 1/4"-20
2715	Cover For BusBar 2301 and 2303		
2716	Cover For BusBar 2302		

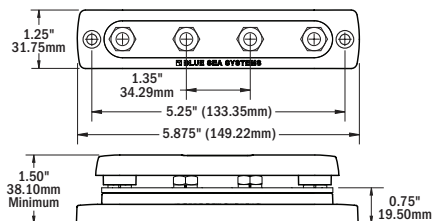
Note: 2715 replaces 2706, 2716 replaces 2707



2303



2307



See page 68 for compatible enclosure 2719



2301



2300



2302



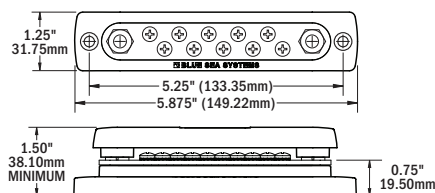
2312



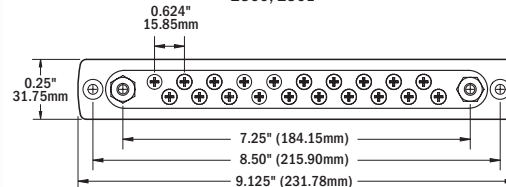
2715



2716



2300, 2301



2302, 2312

Sabre Yachts relies on Blue Sea Systems products, like BusBars, to build a trouble free electrical system aboard the Sabre 42 Salon Express.



AC ~ DC

MaxiBus 250A Common BusBars

Now with insert-molded stainless steel studs and optional fully enclosed insulating base and cover

- Insulating cover with breakouts for easy wire access
- Insulating cover meets ABYC insulation requirements

Specifications

Ic	Continuous Rating	250A AC/250A DC
Vmxo	Voltage Max. Operating	300V AC/48V DC
Mounting Holes		Accepts #10 (M5) Screws
Bus Material		Tin-Plated Copper CDA 110
		UNS C11000

Regulatory

CE Certified



2128



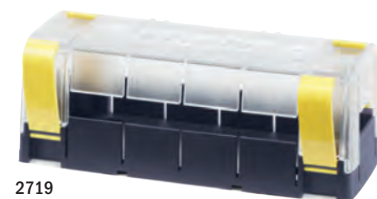
2105



2127



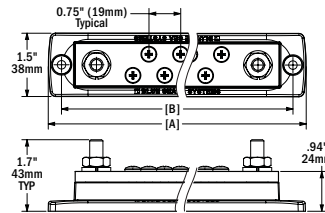
2126



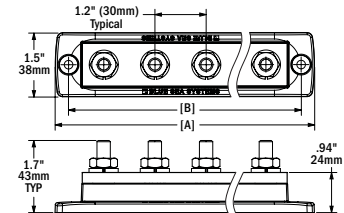
2719

Mounting holes provided for: 150A Common Busbars, DualBus, 285-Series Circuit Breakers (Surface Mount), PowerBar Common BusBar, and Dual PowerPost Cable Connectors

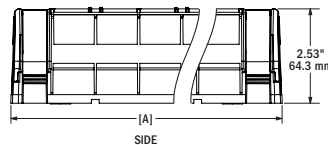
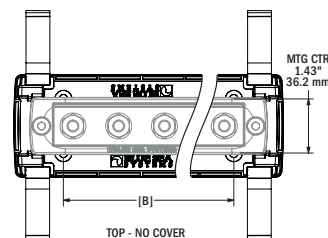
Part N°	Terminal Studs	Terminal Screws	[A] Length in (mm)	[B] Mounting Centers in (mm)
2105	2 × 5/16" -18	12 × #10-24	7.75 (197.00)	7.125 (181.00)
2126	6 × 5/16" -18	-	7.75 (197.00)	7.125 (181.00)
2718	Cover for 2105 and 2126		8.78 (223.10)	5.41 (137.30)
2127	4 × 5/16" -18	-	5.875 (149.00)	5.25 (133.00)
2128	2 × 5/16" -18	6 × #10-24	5.875 (149.00)	5.25 (133.00)
2719	Cover for 2127 and 2128		6.70 (170.00)	4.10 (104.10)



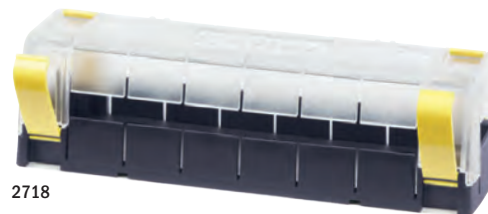
2128, 2105



2127, 2126



2719 and 2718



2718

Mounting holes provided for: PowerBar 600A Common BusBar, DualBus (x2), PowerPost Cable Connector, PowerPost Plus Cable Connector, Class T Fuse Block, and ANL Fuse Block

2719 Related Products



150A Common BusBars
2301, 2303
p. 67

DualBus
2701, 2702
p. 66

285-Series Circuit Breakers
7180-7189
p. 48



PowerBar
Common BusBar
p. 69

Dual PowerPost
Cable Connectors
p. 70

DC Shunts
p. 109

2718 Related Products



PowerBar 600A
Common BusBar
2104 p. 69

DualBus (x2)
2701
p. 66

PowerPost
Cable Connector (x2)
2001-2003 p. 70



PowerPost Plus
Cable Connector (x2)
2101-2103 p. 70

Class T Fuse Block
5502
p. 41

ANL Fuse Block
5503
p. 41

AC ~ DC

PowerBar 600A Common BusBars

Highest amperage BusBar with 3/8" terminal studs



Specifications

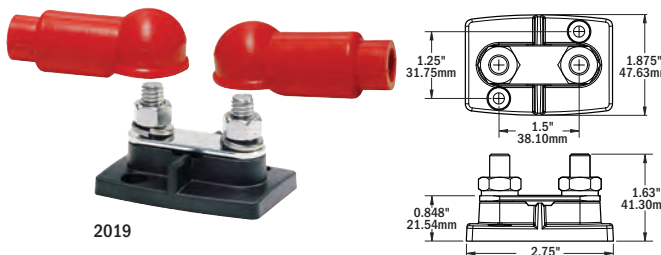
Ic Continuous Rating	545A AC/600A DC
Vmxo Voltage Max. Operating	300V AC/48V DC
Mounting Holes	2104—Accepts 1/4" Screws 2107—Accepts #10 (M5) Screws
Bus Material	Tin-Plated Copper CDA 110 UNS C11000

Regulatory CE Certified

Part N°	Terminal Studs	Terminal Screws	[A] Length in (mm)	[B] Mounting Centers in (mm)
2104	4 x 3/8"-16	4 x #8-32	7.0 (177.8)	6.25 (158.74)
2107	8 x 3/8"-16	4 x #8-32	11.375 (288.93)	10.375 (263.53)
2708	Cover For 2104			

PowerBar Common BusBars

Provides compact high-amp busing with 3/8" terminal studs



Specifications

Ic Continuous Rating	Amperage rating is determined by wire amperage capacity connected to the PowerBar up to 600 Amps
Vmxo Voltage Max. Operating	48V DC
Mounting Holes	Accepts #10 (M5) Screws
Bus Material	Tin-Plated Copper CDA 110/UNS C11000

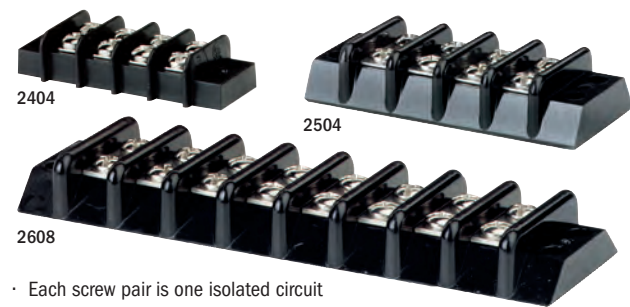
Regulatory CE Certified

Part N°	Terminal Studs	Insulators
2019	2 x 3/8"-16	Included
2020	2 x 3/8"-16	-

See page 68 for compatible enclosure PN 2719

Terminal Blocks

Employs fully insulated independent terminal blocks to isolate circuits



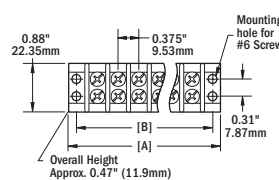
- Each screw pair is one isolated circuit
- Terminal Block Jumpers allow creation of common circuits
- Closed back design completely insulates power from the mounting surface

Specifications

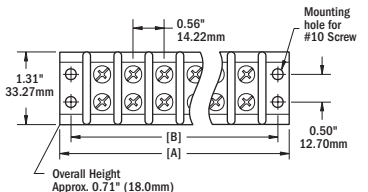
Ic Continuous Rating	See table below
Vmxo Voltage Max. Operating	See table below
Bus Material	Tin-Plated Brass
Mounting Holes	See drawings below

Regulatory CE Certified

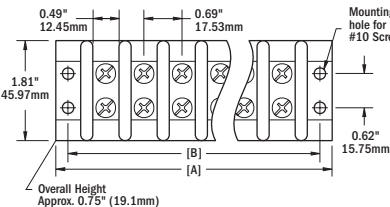
Part N°	Circuits	AC/DC Ic	AC/DC Vmxo	Terminal Screw	Drawing Number	[A] Length in (mm)	[B] Mounting Centers in (mm)
2402	2	20	300	#6	1	1.41 (35.81)	1.13 (28.70)
2404	4	20	300	#6	1	2.16 (54.86)	1.88 (47.75)
2406	6	20	300	#6	1	2.91 (73.91)	2.63 (66.80)
2408	8	20	300	#6	1	3.66 (92.96)	3.38 (85.85)
2410	10	20	300	#6	1	4.41 (112.01)	4.13 (104.90)
2502	2	30	600	#8	2	2.10 (53.34)	1.69 (42.93)
2504	4	30	600	#8	2	3.22 (87.79)	2.81 (71.37)
2506	6	30	600	#8	2	4.34 (110.24)	3.93 (99.82)
2508	8	30	600	#8	2	5.46 (138.68)	5.05 (128.27)
2510	10	30	600	#8	2	6.58 (167.13)	6.17 (156.72)
2512	12	30	600	#8	2	7.70 (195.58)	7.29 (185.17)
2602	2	65	600	#10	3	2.50 (63.49)	2.06 (52.32)
2604	4	65	600	#10	3	3.88 (98.55)	3.44 (87.38)
2606	6	65	600	#10	3	5.26 (133.61)	4.82 (122.43)
2608	8	65	600	#10	3	6.64 (168.67)	6.20 (157.48)
2610	10	65	600	#10	3	8.02 (203.73)	7.58 (192.53)



Drawing 1 (2402-2410)



Drawing 2 (2502-2512)



Drawing 3 (2602-2610)

Terminal Block Jumpers

Combines independent circuits on a terminal block (above) and ST-Blade Fuse Blocks PN 5035 and 5037 (p. 39)

Specifications

Bus Material	Nickel-Plated Brass
Continuous Amperage	Equivalent to matching block

Part N°	Description	Retail Pack
9218	For use with 20A Terminal Blocks	5
9217	For use with 30A Terminal Blocks	5
9216	For use with 65A Terminal Blocks	5



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

DC

PowerPost Cable Connectors

Insulated single stainless steel stud terminates multiple large conductors



2010



2003

- Connects high amperage cables securely
- Includes insulator (p. 72)

Specifications

Ic Continuous Rating: Not rated—amperage flows between terminals stacked on post and is determined by wire and terminals used.

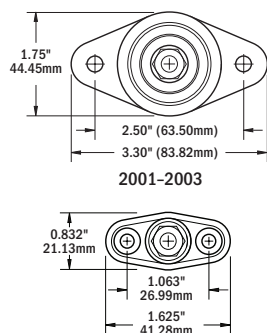
Vmxo Voltage Max. Operating Mounting Holes

48V DC
Accepts #8 Screws (2010, 2011)
Accepts 1/4" Screws (2001, 200, 2003)

Regulatory
CE Certified

Part N°	Terminal Stud
2010	#10-32 × 5/8"
2011	1/4"-20 × 3/4"
2001	1/4"-20 × 1-1/16"
2002	5/16"-18 × 7/8"
2003	3/8"-16 × 7/8"

PNs 2001, 2002, and 2003, see page 68 for compatible enclosure 2718



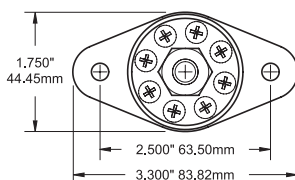
2010, 2011

PowerPost Plus Cable Connectors

Enables connection of multiple smaller wires in spaces where a traditional bus bar may not fit



2103



See page 68 for compatible enclosure 2718

- 150 Amp bus allows small wire connections at high amperage cable connections
- Includes insulator, (page 72)

Specifications

Ic Continuous Rating: 150A DC
Vmxo Voltage Max. Operating Mounting Holes: 48V DC
Bus Material: Accepts 1/4" Screws
Tin-Plated Copper

Regulatory
CE Certified

Part N°	Terminal Stud	Terminal Screws
2101	1/4"-20 × 1"	8 × #8-32
2102	5/16"-18 × 3/4"	8 × #8-32
2103	3/8"-16 × 3/4"	8 × #8-32

Dual PowerPost Cable Connectors

Provides a termination point for extending the length of outboard harnesses or other conductors

- Designed for connecting high amperage conductors
- 2018 is also designed for outboard engine installation when factory cables need to be extended
- Includes insulators (p. 72)



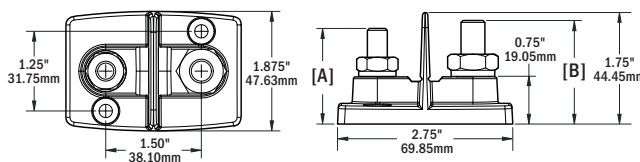
2017

Specifications

Ic Continuous Rating: Not rated—amperage flows between terminals stacked on post and is determined by wire and terminals used.

Vmxo Voltage Max. Operating Mounting Holes: 48V DC
Accepts #10 (M5) Screws

Part N°	Description	Insulating Cover	Stud Height A in (mm)	Stud Height B in (mm)
2016	2 × 5/16"-18 Studs with Insulators	Yes	1.50 (38.1)	1.50 (38.1)
2016100	2 × 5/16"-18 Studs	-	1.50 (38.1)	1.50 (38.1)
2017	2 × 3/8"-16 Studs with Insulators	Yes	1.63 (41.3)	1.63 (41.3)
2017100	2 × 3/8"-16 Studs	-	1.63 (41.3)	1.63 (41.3)
2018	1 × 5/16"-18 Stud, 1 × 3/8"-16 Stud with Insulators	Yes	1.50 (38.1)	1.63 (41.3)
2018100	1 × 5/16"-18 Stud, 1 × 3/8"-16 Stud	-	1.50 (38.1)	1.63 (41.3)



See page 68 for compatible enclosure PN 2719

Terminal Feed Through Connectors

Eliminates chafe and provides strain relief when passing high current through hulls, decks and bulkheads

- Protects large cables that are subject to chafing when passed through holes
- The large terminals have a mounting face that can be gasketed or bedded to provide a water tight installation

Specifications

Stud Material: Tin-Plated Copper Alloy
Mounting Holes: Accepts #10 (M5) Screws

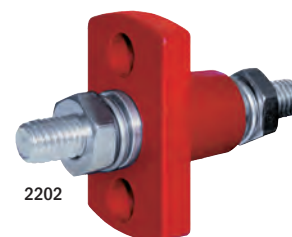
Regulatory

Rated IP66—protected against powerful water jets

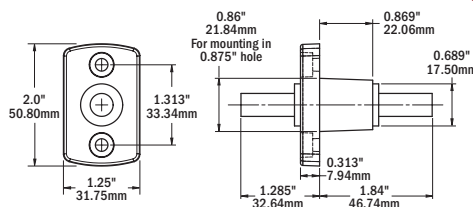


2201








Part N°	Description	I _{mxo}	V _{mxo}	Color
2201	5/16"-18 Stud	250A	48V	Black
2202	5/16"-18 Stud	250A	48V	Red
2203	3/8"-16 Stud	250A	48V	Black
2204	3/8"-16 Stud	250A	48V	Red



















2202



Connector Comparison

Product	MiniBus 100A Common BusBars			DualBus 100A Common BusBars		DualBus Plus 150A Common BusBars	150A Common BusBars	
								
Page N°	66	66	66	66	66	66	67	67
Ic Continuous Rating	100A AC 100A DC	100A AC 100A DC	100A AC 100A DC	100A AC 100A DC	100A AC 100A DC	130A AC 150A DC	130A AC 150A DC	130A AC 150A DC
Vmxo Max. Voltage	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC
Terminal Screw	5 × #8-32	-	6 × #8-32	5 per bus × #8-32	10 per bus × #8-32	5 per bus × #8-32	10 × #8-32	20 × #8-32
Terminal Stud	2 × #10-32	4 × #10-32	-	-	-	2 per bus × 1/4"-20 or 2 per bus × 5/16"-18	2 × 1/4"-20	2 × 1/4"-20
Insulating Cover	Cover available	Cover available	-	Cover available	Cover available	Included	Cover available	Cover available

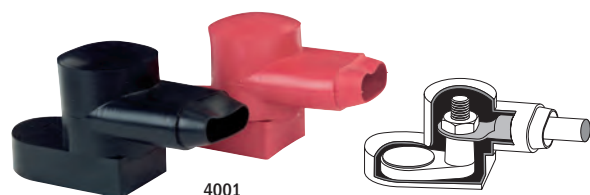
Product	150A Common BusBar	MaxiBus 250A Common BusBars				PowerBar Common BusBar	PowerBar 600A Common BusBars	
								
Page N°	67	68	68	68	68	69	69	69
Ic Continuous Rating	130A AC 150A DC	250A AC 250A DC	250A AC 250A DC	250A AC 250A DC	250A AC 250A DC	Determined by wire up to 600A	545A AC 600A DC	545A AC 600A DC
Vmxo Max. Voltage	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	300V AC 48V DC	48V DC	300V AC 48V DC	300V AC 48V DC
Terminal Screw	-	6 × #10-24	12 × #10-24	-	-	-	4 × #8-32	4 × #8-32
Terminal Stud	4 × 1/4"-20	2 × 5/16"-18	2 × 5/16"-18	4 × 5/16"-18	6 × 5/16"-18	2 × 3/8"-16	4 × 3/8"-16	8 × 3/8"-16
Insulating Cover	Cover available	Cover available	Cover available	Cover available	Cover available	Included	Cover available	-

Product	Terminal Blocks			Terminal Feed Through Connectors	PowerPost Cable Connectors		PowerPost Plus Cable Connectors	Dual PowerPost Cable Connectors
								
Page N°	69	69	69	70	70	70	70	70
Ic Continuous Rating	20A AC 20A DC	30A AC 30A DC	65A AC 65A DC	250A DC	Determined by wire and terminals	Determined by wire and terminals	150A DC	Determined by wire and terminals
Vmxo Max. Voltage	300V AC 300V DC	600V AC 600V DC	600V AC 600V DC	48V DC	48V DC	48V DC	48V DC	48V DC
Terminal Screw	#6	#8	#10	-	-	-	8 × #8-32	-
Terminal Stud	-	-	-	5/16"-18 or 3/8"-16	1 × #10-32 or 1 × 1/4"-20	1 × 1/4"-20 or 1 × 5/16"-18 or 1 × 3/8"-16	1 × 1/4"-20 or 1 × 5/16"-18 or 1 × 3/8"-16	2 × 5/16"-18 or 2 × 3/8"-16 or 1 × 5/16"-18 and 1 × 3/8"-16
Insulating Cover	-	-	-	-	Included	Included	Included	Included

Rotating CableCap Insulators

Insulates battery terminals which have integral wing nut posts

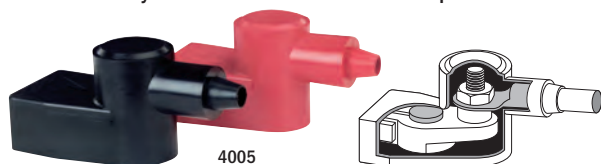
- Top rotates 360 degrees to allow cable entry from any angle



Part N°	Cable Size (AWG)	Color	Package
4001	All	Red/Black	Pair/Retail
9030B	All	Black	Bulk/Not for retail
9031B	All	Red	Bulk/Not for retail

Standard CableCap Insulators

Insulates battery terminals which have added adapter terminals



Part N°	Cable Size (AWG)	Color	Package
4005	4, 2, 1	Red/Black	Pair/Retail
4006	1/0, 2/0	Red/Black	Pair/Retail
9038B	4, 2, 1	Black	Bulk/Not for retail
9039B	4, 2, 1	Red	Bulk/Not for retail
9040B	1/0, 2/0	Black	Bulk/Not for retail
9041B	1/0, 2/0	Red	Bulk/Not for retail

Automotive CableCap Insulators

Insulates battery terminals which have standard automotive posts



Part N°	Cable Size (AWG)	Color	Package
4016	4, 2, 1	Red/Black	Pair/Retail
4017	1/0, 2/0	Red/Black	Pair/Retail
9176B	1/0, 2/0	Red	Bulk/Not for retail
9177B	1/0, 2/0	Black	Bulk/Not for retail

PowerPost Insulator

Provides electrical insulation for single studs and large cables.

- Included with the following part numbers; 2001, 2002, 2003, 2101, 2102, 2103, and 2019.



Part N°	Cable Size (AWG)	Color	Package
4004	6	Red	Retail

Square CableCap Insulators

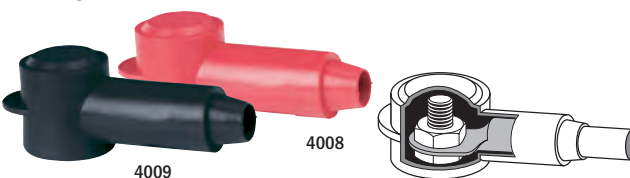
Insulates battery terminals which have in-line dual posts



Part N°	Cable Size (AWG)	Color	Package
4018	1/0	Red/Black	Pair/Retail
4019B	1/0	Red	Bulk/Not for retail
4020B	1/0	Black	Bulk/Not for retail

Stud CableCap Insulators

Insulates single stud on alternators, starters, windlasses and high amperage termination points

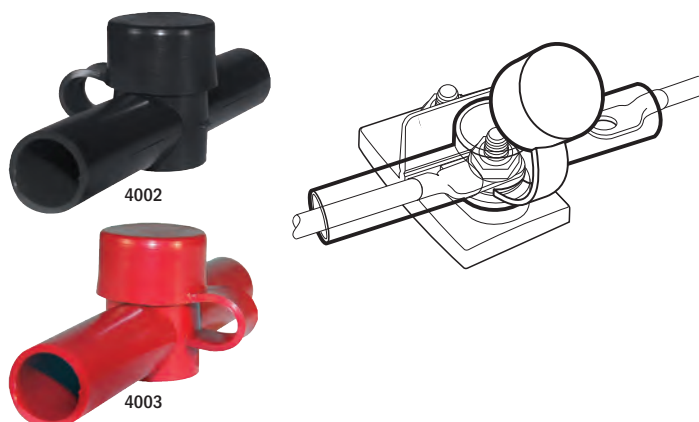


Part N°	Cable Size (AWG)	Color	Package
4008	18-10	Red	Retail/3
4009	18-10	Black	Retail/3
4010	8-4	Red	Retail/2
4011	8-4	Black	Retail/2
4012	2-2/0	Red	Retail/1
4013	2-2/0	Black	Retail/1
4014	3/0-4/0	Red	Retail/1
4015	3/0-4/0	Black	Retail/1

Dual Entry PowerPost Cable Insulators

Protects against accidental short circuits

- For use with Dual PowerPost Cable Connectors 2016, 2017, and 2018 (see page 70)



Part N°	Cable Size (AWG)	Cable Entry Size	Color	Package
4002	up to 2/0	0.7" (17.8 mm)	Black	Retail/1
4003	up to 2/0	0.7" (17.8 mm)	Red	Retail/1

DC

CableClams

Provides a waterproof pass-through for antenna cables without requiring removal of the factory installed connector

- Save the expense of removing and replacing connectors
- Avoid poor connections from removing factory connectors
- Use 1001 for GPS antenna cables, 1002 for VHF antenna cables, 1003 for Radar antenna cables
- Includes all fasteners

Specifications

Ring Material UV-Stabilized Thermoplastic

Seal Material UV-Stabilized Buna-N Rubber

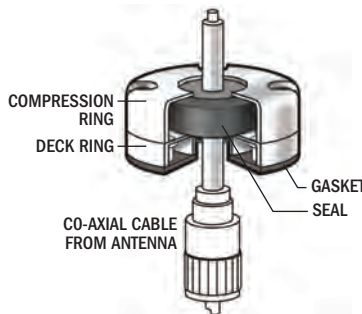
Mounting Holes 1001 - Accept #6 x 7/8"

Stainless Steel Screws

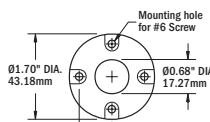
1002, 1003 - Accept #8 x 7/8"

Stainless Steel Screws

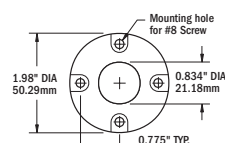
Part N°	Max. Connector Diameter in (mm)	Max. Cable Diameter in (mm)
1001	0.68 (17.0)	0.31 (8.0)
1002	0.83 (21.0)	0.44 (11.0)
1003	1.40 (35.0)	0.56 (14.0)



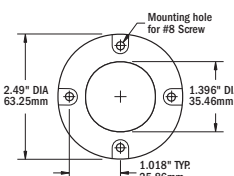
1001



1001



1002



1003

NEW

CableClams with Stainless Steel Dress Cap

Provides a waterproof pass-through for antenna cables without requiring removal of the factory installed connector

- Pre-drilled and slit rubber seals for easier installation.
- A polished stainless steel dress cap conceals mounting hardware, matches other deck hardware and offers protection from UV
- Stainless steel fasteners included

Specifications

Dress Cap Material 316 Stainless Steel

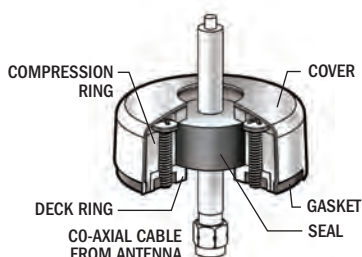
Ring Material UV-Stabilized Thermoplastic

Seal Material UV-Stabilized Buna-N Rubber

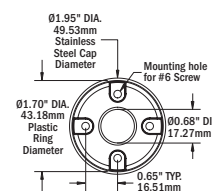
Mounting Holes 1001100 - Accept #6 x 7/8" Screws

1002100, 1003100 - Accept #8 x 7/8" Screws

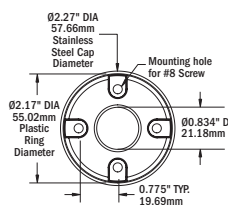
Part N°	Seals Included	Max. Connector Diameter in (mm)	Max. Cable Diameter in (mm)
1001100	3	0.68 (17.0)	0.31 (8.0)
1002100	3	0.83 (21.0)	0.44 (11.0)
1003100	1	1.40 (35.0)	0.56 (14.0)



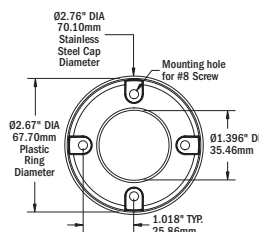
1001100



1001100



1002100



1003100

NEW

Side Entry CableClams with Stainless Steel Dress Cap

Provides a waterproof side entry for antenna cables without requiring removal of the factory installed connector. Stainless steel dress cap conceals mounting hardware and matches stainless steel deck fittings.

- Simple one-piece design for easy side mount installations
- Low profile, contoured edge reduces the risk of tangling lines
- A polished stainless steel dress cap conceals mounting hardware, matches other deck hardware and offers protection from UV
- Includes all fasteners

Specifications

Ring Material UV-Stabilized Thermoplastic

Gasket Material UV-Stabilized Buna-N Rubber

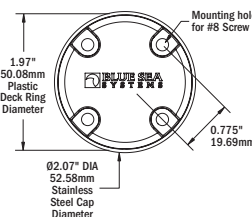
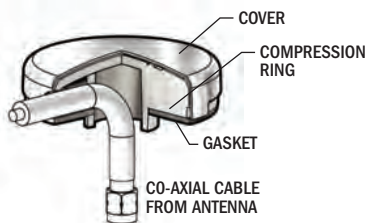
Mounting Holes Accept #8 x 7/8"

Stainless Steel Screws



1007100

Part N°	Max. Connector Diameter in (mm)	Max. Cable Diameter in (mm)	Polished Stainless Steel Dress Cap
1007	1.00 (25.40)	0.28 (7.112)	-
1007100	1.00 (25.40)	0.28 (7.112)	Yes





Blue Sea Systems Custom 360 Panel easily manages the long list of electrical demands found on every Sabre Yachts 54 Fly Bridge Sedan.

POWER DISTRIBUTION

At the heart of a boat's electrical system is the power distribution panel.

Blue Sea Systems manufactures panels for small runabouts to large offshore cruising yachts, with four panel styles to choose from.

WeatherDeck® Waterproof Panels' exceed the demands of any wet location.

Contura Switch Water Resistant Panels are designed to complement existing switches and controls and are an excellent addition to any cockpit, bridge, or cabin.

Traditional Metal Panels are styled to match existing panels found on many boats and are often used as a replacement panel. Panels are pre-wired and ready to install.

The 360 Panel System uses an open frame and modular architecture to mount a broad selection of panel components. This allows multiple functions to be combined in a single panel for unmatched flexibility and future upgradability.

Custom 360 Panels are available when a standard panel does not suffice. The online Panel Wizard provides a simple tool to design a fully customized panel that is built and shipped from our Bellingham facility within 5 business days of order receipt.

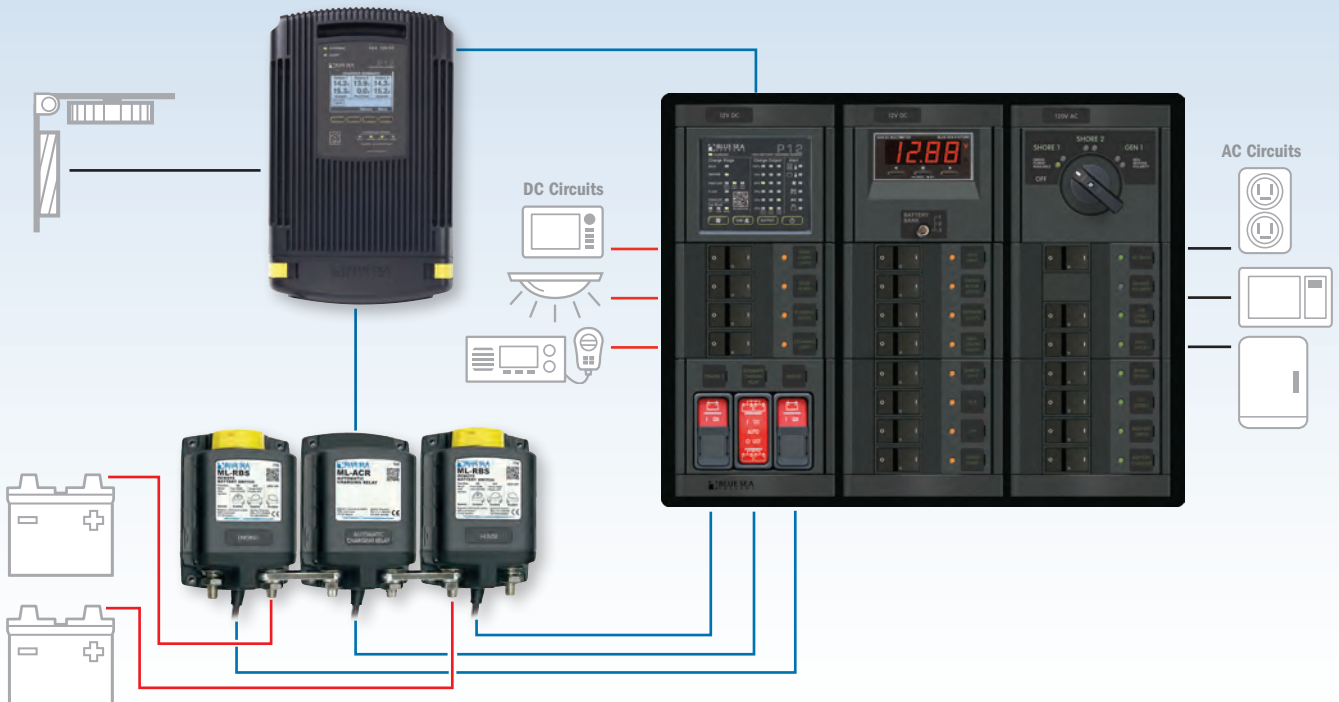
SECTION INDEX

WeatherDeck® Waterproof	76-77
Contura Switch Water Resistant	78-79
360 Panel System	80
Traditional Metal	81
DC Main and Branch	82-85
AC Branch Circuit Breaker	86-87
AC Main Circuit Breaker	88-89
AC Circuit Breaker Source Selection	92-93
AC Rotary Switch Source Selection	92-93
Residual Current Circuit Breaker Panels	91
GFCI Branch and ELCI Main	91
240 Volt AC Circuit Breaker Panels	91
AC/DC Combination Circuit Breaker Panels	94-95
360 Panel System Custom Panel Program	96-99

SUBSYSTEM



The flexibility of the 360 Panel System provides one central location to monitor, distribute, switch and protect the complex DC and AC system on a boat or vehicle. The new P12 Battery Charger Remote LED Display can be mounted in the 360 Panel to conveniently monitor and control the P12 Battery Charger. The 360 Panel can also be designed with control switches for the ML Remote Battery Switches and ML ACR for complete battery management with the touch of a switch. For seamless control of charge management either at or away from the dock, the ML ACR can be coupled with the P12 Battery Charger applying the proper charge from either the AC Battery Charger or from the engine alternator. 360 Panels are available in stock or custom panels that can scale to your needs.



DC WeatherDeck® Waterproof Panels

Hunt Yachts installs the Blue Sea Systems WeatherDeck® Waterproof Panels on the Surfhunter 25 Center Console.



Designed For Extreme Weather Conditions

The WeatherDeck™ Panels are Blue Sea Systems' most waterproof panels and their contemporary appearance adds style to any boat. Available in switch only, fuse, and circuit breaker models, the WeatherDeck™ Panels can be mounted in four orientations for maximum versatility.

Circuit Positions:

model	positions
circuit breaker	4, 6, 8
fuse	2, 4, 6, 8
switch only	4, 6, 8

Voltage Rating:

model	rating
circuit breaker	12V or 24V DC
fuse	12V DC
switch only	12V or 24V DC

Backlight Labels:

model	
circuit breaker	Backlit
fuse	ON indicating bicolored
switch only	-

Labels: square format



Fuse Panel

ATO®/ATC® Fuses, switches, bicolored LEDs illuminate circuit labels to identify ON, OFF, or Blown circuits

NEW



Switch Only Panel No circuit protection or illuminated circuit labels



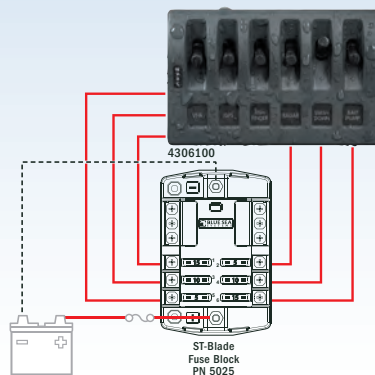
Circuit Breaker Panel

Push Button Reset-Only Circuit Breakers, switches, green LEDs illuminate circuit labels

SUBSYSTEM



The pairing of the new WeatherDeck® Switch Only Panel and the ST Blade Fuse Block with Ground is ideal for small runabouts and RIBs. These boats often require the waterproof switching of the WeatherDeck® Panel, do not require backlighting, and are operated only during daylight hours. Using an ST Blade Fuse Block allows consolidation of all of the boat's circuit protection in a dry and protected location.



Related Products



ST-Blade Fuse Blocks p. 39



ST-CLB Circuit Breaker Blocks p. 46



Push Button Circuit Breaker p. 47



Push Button Circuit Breaker Boot p. 46



OFF-ON Toggle Switch p. 62



OFF-ON Toggle Switch Boot p. 62



ATO® or ATC® Fuses p. 35

WeatherDeck® Waterproof Panels

Designed for open-cockpit and flybridge applications

Features

- **Fuse Model:** Bicolored LEDs illuminate circuit labels to quickly identify OFF (Red), ON (Green), or Blown (No color) circuits
- **Circuit Breaker Model:** Green LEDs illuminate circuit labels
- **Fuse and Circuit Breaker Models:**
 - Backlighting is compatible with DeckHand Dimmers (p. 11)
 - Independent label backlighting allows switching and dimming
- **Switch Only Model:** No circuit protection or illuminated circuit labels
- Integrated switch guards reduce the risk of accidental switching
- Panels can be mounted in four different orientations
- Panel front rated IP67 when properly mounted with watertight mounting gasket
- UV stabilized weather-resistant faceplate snaps on and off providing access to components and concealing mounting screws
- Square Format Label Set 4215 included (p. 117)

Circuit Breaker Panel Specifications

Vmxo	Voltage Max. Operating	24 Volts DC
Imxo	Amperage Max. Operating	15A @ 12V DC (per circuit) 9A @ 24V DC (per circuit)
Ioc (Backlight)	Amperage Operating Current	10mA/Illuminated Circuit
Panel Cumulative Rating		45A
Switch Rating		15 Amps Maximum
Backlighting Voltage		12 or 24V DC
Backlighting Amperage Draw		10mA/Illuminated Circuit
Circuit Breaker Rating		15A

Fuse Panel Specifications

Vmxo	Voltage Max. Operating	12V DC
Imxo	Amperage Max. Operating	15A @ 12V DC (per circuit)
Ioc (Backlight)	Amperage Operating Current	10mA/Illuminated Circuit
Panel Cumulative Rating		2 Pos.—30A 4 Position—60A 6 Position—90A 8 Position—100A
Switch Rating		15A Max.
Backlighting Voltage		12V DC Nominal
Fuses Available		1–30A

Switch Only Panel Specifications

Vmxo	Voltage Max. Operating	24 Volts DC
Imxo	Amperage Max. Operating	15A @ 12V DC (per circuit)
Switch Rating		15A Max.

Regulatory

IP67—protected against immersion up to 1 meter for 30 minutes (see inside back cover)



4374 Circuit breakers



4376 Circuit breakers



4378 Circuit breakers



4302 Fused
4303 Switch only, no backlight or fuses



4304 Fused
4305 Switch only, no backlight or fuses



4306 Fused
4307 Switch only, no backlight or fuses



4308 Fused
4309 Switch only, no backlight or fuses

Part N°	Positions	Circuit Protection	Label Backlighting	Switches	Voltage	Width in (mm)	Height in (mm)	Depth in (mm)	Width Mounting Centers in (mm)	Height Mounting Centers in (mm)
4374	4	CLB Circuit Breakers	Yes	Yes	12V / 24V DC	4.25 (107.95)	4.30 (109.22)	3.50 (88.90)	3.69 (93.73)	3.74 (95.00)
4376	6	CLB Circuit Breakers	Yes	Yes	12V / 24V DC	4.25 (107.95)	6.00 (152.40)	3.50 (88.90)	3.69 (93.73)	5.44 (138.18)
4378	8	CLB Circuit Breakers	Yes	Yes	12V / 24V DC	4.25 (107.95)	7.70 (195.58)	3.50 (88.90)	3.69 (93.73)	7.14 (181.36)
4302	2	ATO®/ATC® Fuses	Yes	Yes	12V DC	3.88 (98.55)	2.60 (66.04)	2.50 (63.50)	3.31 (84.07)	2.04 (51.82)
NEW 4303	2	-	-	Yes	12V / 24V DC	3.88 (98.55)	2.60 (66.04)	2.50 (63.50)	3.31 (84.07)	2.04 (51.82)
4304	4	ATO®/ATC® Fuses	Yes	Yes	12V DC	3.88 (98.55)	4.30 (109.22)	2.50 (63.50)	3.31 (84.07)	3.74 (95.00)
NEW 4305	4	-	-	Yes	12V / 24V DC	3.88 (98.55)	4.30 (109.22)	2.50 (63.50)	3.31 (84.07)	3.74 (95.00)
4306	6	ATO®/ATC® Fuses	Yes	Yes	12V DC	3.88 (98.55)	6.00 (152.40)	2.50 (63.50)	3.31 (84.07)	5.44 (138.18)
NEW 4307	6	-	-	Yes	12V / 24V DC	3.88 (98.55)	6.00 (152.40)	2.50 (63.50)	3.31 (84.07)	5.44 (138.18)
4308	8	ATO®/ATC® Fuses	Yes	Yes	12V DC	3.88 (98.55)	7.70 (195.58)	2.50 (63.50)	3.31 (84.07)	7.14 (181.36)
NEW 4309	8	-	-	Yes	12V / 24V DC	3.88 (98.55)	7.70 (195.58)	2.50 (63.50)	3.31 (84.07)	7.14 (181.36)

DC Contura Switch Water Resistant Panels



Rugged Design For Wet Environments

Using industry standard Contura switches, the Blue Sea Systems Contura Switch Water Resistant Panels are designed to perform above deck, as well as complement any interior. Fuse models are available in a classic grey finish, and circuit breaker models are available in white or black.

Circuit positions:

model	positions
circuit breaker	3, 4, 6, 8
fuse	1, 3, 4, 6, 8

Voltage rating: 12 or 24V DC

Total panel rating: 45A

ON indication: LED in switch

Labels:

model	format
circuit breaker	small
fuse	large or small



Fuse Panel back must be enclosed in a dry environment



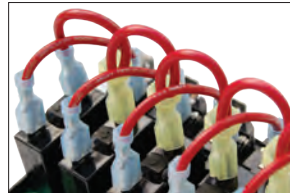
Circuit Breaker Panel front is rated IP66 when mounted with gasket in place
IP66 – Protected against powerful water jets



Carling Contura switches match common helm station switches



Integrated LEDs provide immediate indication of ON or OFF



Tin-plated wire and connectors resist corrosion



Aluminum panel is chemically treated front and back and painted to resist corrosion

Related Products



Push Button
Circuit Breaker Boot
p. 46



Push Button
Reset-Only
Circuit Breaker p. 47



Water Resistant
Contura Switches
p. 60



Water Resistant
Fuse Holder
p. 37



CABIN LIGHTS
Labels
p. 117

Contura Switch Water Resistant Panels

Designed for open-cockpit and flybridge applications using switches to complement existing controls commonly used on many boats

Features

- Designed for 12 or 24V DC systems
- Watertight mounting gasket
- ON indicating LEDs embedded in all switches
- Includes Small Format Label Set 8217 or 8214* (p. 117)

NOTE: Labels are not backlit

Specifications

Vm _{xo} Voltage Max. Operating	24V DC
I _{oc} (Switch LED) Amperage Operating Current	18 Milliamps each
Switch Rating	20A @ 12V DC 15A @ 24V DC
Circuit Breaker Rating	15A
Fuse Holder Rating	20A Max. (15A fuses included)
Panel Cumulative Rating	45A (all except 8 position panels) 90A (8 position panels)

Regulatory

CE marked

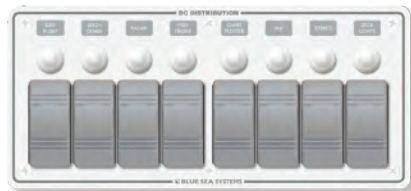
CIRCUIT BREAKER MODELS ONLY—

Meet UL 1500 and ISO 8846 external ignition protection requirements

Panel front is IP66 when mounted with gasket in place—protected against powerful water jets (see inside back cover)



8274



8271



8272



8273

Part N°	Push Button Circuit Breakers	AGC®/MDL® Fuse Holders	Width in (mm)	Height in (mm)	Depth in (mm)
8274	3	-	4.50 (114.30)	3.75 (95.25)	3.25 (82.55)
8272	4	-	5.25 (133.35)	4.25 (107.95)	3.25 (82.55)
8273	6	-	4.50 (114.30)	7.50 (190.50)	3.25 (82.55)
8271	8	-	9.37 (238.00)	4.25 (107.95)	3.25 (82.55)
8374	3	-	4.50 (114.30)	3.75 (95.25)	3.25 (82.55)
8372	4	-	5.25 (133.35)	4.25 (107.95)	3.25 (82.55)
8373	6	-	4.50 (114.30)	7.50 (190.50)	3.25 (82.55)
8371	8	-	9.37 (238.00)	4.25 (107.95)	3.25 (82.55)
8054*	-	3	5.25 (133.35)	3.75 (95.25)	3.00 (76.20)
8053*	-	6	5.25 (133.35)	7.50 (190.50)	3.00 (76.20)
8262	-	4	5.25 (133.35)	3.75 (95.25)	3.00 (76.20)
8261	-	8	9.37 (238.00)	3.75 (95.25)	3.00 (76.20)
8263†	-	1	2.25 (57.15)	3.75 (95.25)	3.00 (76.20)

* 8054 and 8053 include Large Format Label Set 8030 (p. 117-120)

† 8263 Bilge Pump Control Panel—(ON)-OFF-ON Contura Switch (p. 112)



8374



8372



8373



8371



8262



8054*



8261



8053*



8263† / Bilge Pump Control Panel

Related Product



Dual Bilge Pump
Control Panel
p. 61

AC ~ DC

360 Panel System

Intrepid uses Blue Sea Systems 360 Panels aboard their boats including the 400 Cuddy.



Innovative Design Meets Unrivalled Flexibility

The 360 Panel System uses an open frame to mount a broad selection of modules allowing multiple functions to be combined in a single panel. This innovative design offers a wide choice of panel features, accommodates future changes, and permits rapid assembly and shipping time. With options ranging from battery management to source selection, the 360 Panel System provides unmatched design flexibility. If you do not find the panel you are looking for in the stock panel offering, please go to pages 98-99 to find out how to create and order a custom panel that will work for your specific application.

circuit breaker positions:

- stock panels up to 32
- custom panels up to 80

voltage rating:

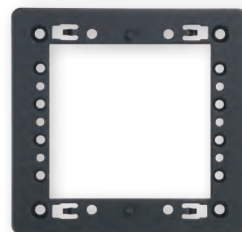
DC	12V, 24V
AC	120V, 120/240V, 230V

total panel rating:

up to 100A per bus

ON indication: LED

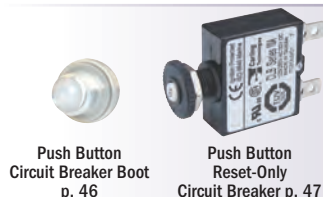
labels: square format



Open frame allows future replacement or upgrade of panel modules



Related Products



Traditional Metal Panels

Blue Sea Systems Traditional Metal Panels are a complementary fit on the Saber Spirit.



Styled to Match Existing Panels

The Traditional Metal Panels are equally suited for use as extensions to existing panels or as full replacements. All panels are pre-wired and include LEDs in all positions. Choose from over 100 stock panels ranging from simple circuit breaker models to complex multi-source AC configurations.

circuit breaker positions:

up to 35

voltage rating:

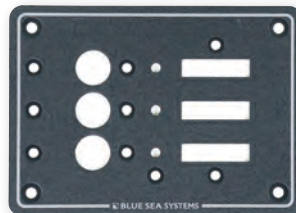
DC	12V, 24V
AC	120V, 120/240V, 230V

total panel rating:

up to 100A per bus

ON indication: LED

labels: large format



Marine grade aluminum frame securely holds fixed panel components and is chemically treated to resist corrosion (aluminum frame not sold separately)

Related Products



A-Series Toggle
Circuit Breakers
p. 50



C-Series Toggle
Circuit Breaker
p. 52



ELCI Main
Circuit Breakers
p. 55



Digital Meters
p. 104-105



Analog Meters
p. 106-107



LED Indicator Lights
p. 116



Insulating Back
Cover p. 115

CABIN LIGHTS

Large Format Labels
p. 117

Branch Circuit Breaker Panels

DC Branch panels distribute current from a high amperage input into lower amperage circuits

Features:

- ON-indicating LEDs for select models†
- Backlit label positions for select models†
- Panels with voltmeters include a toggle switch to monitor voltage on up to three battery banks

Component References:

- A-Series Circuit Breakers (p. 50-51)
- Push Button Reset-Only Circuit Breakers (p. 47)
- ON-OFF, SPST Rocker Switches (p. 60)
- 360 Panel System includes PN 4205 label set (p. 117)
- Traditional Metal panels include PN 8030 label set (p. 117)

- DC Digital Multimeter (p. 104)
- DC Analog Meters (p. 106)
- Amber ON-indicating LEDs (p. 116)



	8025	1216	1455†	1459†	8081
Style	Traditional Metal	360 Panel System	360 Panel System	360 Panel System	Traditional Metal
Total Positions	3 Positions	4 Positions	4 Positions	4 Positions	5 Positions
Circuit Breakers (Part N°)	3 A-Series, 15A (7210)	4 A-Series, 15A (7403)	4 Push Button, 10A (7054)	4 Push Button, 10A (7054)	5 A-Series, 15A (7210)
Rocker Switches (Part N°)	-	-	4 ON-OFF, SPST (7480)	4 ON-OFF, SPST (7480)	-
Nominal Voltage	12/24V DC	12V DC	12V DC	12V DC	12V DC
Maximum Amperage	100A	100A	40A	40A	50A
Meter (Part N°)	-	-	-	8-16V (8003)	8-16V (8028) / 0-50A (8041)
Width x Height in (mm)	5.25 (133.35) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 7.75 (196.85)	5.25 (133.35) x 7.50 (190.50)
Depth in (mm)	2.50 (63.50)	3.00 (76.20)	3.50 (88.90)	3.50 (88.90)	2.50 (63.50)



	8401	8096	1450†	1457†	1456†
Style	Traditional Metal	Traditional Metal	360 Panel System	360 Panel System	360 Panel System
Total Positions	5 Positions	6 Positions	8 Positions	8 Positions	8 Positions
Circuit Breakers (Part N°)	5 A-Series, 15A (7210)	6 A-Series, 15A (7210)	8 Push Button, 15A (7056)	8 Push Button, 10A (7054)	8 Push Button, 10A (7054)
Rocker Switches (Part N°)	-	-	-	8 ON-OFF, SPST (7480)	8 ON-OFF, SPST (7480)
Nominal Voltage	12/24V DC	12/24V DC	12/24V DC	12V DC	12V DC
Maximum Amperage	100A	100A per bus	90A	80A	80A
Meter (Part N°)	Digital Multimeter (8248)	-	-	-	-
Width x Height in (mm)	5.25 (133.35) x 7.50 (190.50)	10.50 (266.70) x 3.75 (95.25)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 7.75 (196.85)	9.25 (234.95) x 4.75 (120.65)
Depth in (mm)	4.00 (101.6)	2.50 (63.50)	3.50 (88.90)	3.50 (88.90)	3.50 (88.90)



	1200	1225	8023	8385	1463†
Style	360 Panel System	360 Panel System	Traditional Metal	Traditional Metal	360 Panel System
Total Positions	8 Positions	8 Positions	8 Positions	8 Positions	8 Positions
Circuit Breakers (Part N°)	8 A-Series, 15A (7403)	8 A-Series, 15A (7403)	5 A-Series, 15A (7210)	6 A-Series, 15A (7210)	8 Push Button, 10A (7054)
Rocker Switches (Part N°)	-	-	-	-	8 ON-OFF, SPST (7480)
Nominal Voltage	12V DC	12V DC	12/24V DC	12/24V DC	12V DC
Maximum Amperage	100A	100A per bus	100A	100A per bus	80A
Meter (Part N°)	-	-	-	-	8-16V (8003)
Width x Height in (mm)	4.88 (123.83) x 7.75 (196.85)	9.25 (234.95) x 4.75 (120.65)	5.25 (133.35) x 7.50 (190.50)	10.50 (266.70) x 4.50 (114.30)	4.88 (123.83) x 10.75 (273.05)
Depth in (mm)	3.00 (76.20)	3.00 (76.20)	2.50 (63.50)	2.50 (63.50)	3.50 (88.90)



	1227	1224	8082	8402	1461†
Style	360 Panel System	360 Panel System	Traditional Metal	Traditional Metal	360 Panel System
Total Positions	8 Positions	8 Positions	10 Positions	10 Positions	12 Positions
Circuit Breakers (Part N°)	8 A-Series, 15A (7403)	8 A-Series, 15A (7403)	7 A-Series, 15A (7210)	7 A-Series, 15A (7210)	12 Push Button, 10A (7054)
Rocker Switches (Part N°)	-	-	-	-	12 ON-OFF, SPST (7480)
Nominal Voltage	12V DC	12V DC	12V DC	12/24V DC	12V DC
Maximum Amperage	100A	50A	50A	100A	120A
Meter (Part N°)	Digital Multimeter (8248)	8-16V (8003) / 0-50A (8022)	8-16V (8028) / 0-50A (8041)	Digital Multimeter (8248)	-
Width X Height in (mm)	4.88 (123.83) x 7.75 (196.85)	9.25 (234.95) x 7.75 (196.85)	5.25 (133.35) x 11.25 (285.75)	5.25 (133.35) x 11.25 (285.75)	4.88 (123.83) x 10.75 (273.05)
Depth in (mm)	3.00 (76.20)	3.00 (76.20)	2.50 (63.50)	4.00 (101.6)	3.50 (88.90)



	1464†	1223	1217	8375
Style	360 Panel System	360 Panel System	360 Panel System	Traditional Metal
Total Positions	12 Positions	12 Positions	12 Positions	12 Positions
Circuit Breakers (Part N°)	12 Push Button, 10A (7054)	12 A-Series, 15A (7403)	12 A-Series, 15A (7403)	10 A-Series, 15A (7210)
Rocker Switches (Part N°)	12 ON-OFF, SPST (7480)	-	-	-
Nominal Voltage	12V DC	12V DC	12V DC	12/24V DC
Maximum Amperage	120A	100A	100A per bus	100A per bus
Meter (Part N°)	8-16V (8003)	-	Digital Multimeter (8248)	-
Width x Height in (mm)	9.25 (234.95) x 7.75 (196.85)	4.88 (123.83) x 10.75 (273.05)	9.25 (234.95) x 7.75 (196.85)	14.75 (374.65) x 4.50 (114.30)
Depth in (mm)	3.50 (88.90)	3.00 (76.20)	4.00 (101.60)	2.50 (63.50)



	8376	8068	8403
Style	Traditional Metal	Traditional Metal	Traditional Metal
Total Positions	13 Positions	13 Positions	13 Positions
Circuit Breakers (Part N°)	10 A-Series, 15A (7210)	10 A-Series, 15A (7210)	10 A-Series, 15A (7210)
Nominal Voltage	12/24V DC	12V DC	12/24V DC
Maximum Amperage	100A	50A	100A per bus
Meter (Part N°)	-	8-16V (8028) / 0-50A (8041)	Digital Multimeter (8248)
Width x Height in (mm)	5.25 (133.35) x 11.25 (285.75)	10.50 (266.70) x 7.50 (190.50)	10.50 (266.70) x 7.50 (190.50)
Depth in (mm)	2.50 (63.50)	3.00 (76.20)	4.00 (101.6)

† Without ON-indicating LEDs or backlit label positions



	1452	1222	8377
Style	360 Panel System	360 Panel System	Traditional Metal
Total Positions	16 Positions	16 Positions	16 Positions
Circuit Breakers (Part N°)	16 Push Button, 15A (7056)	16 A-Series, 15A (7403)	10 A-Series, 15A (7210)
Rocker Switches (Part N°)	-	-	-
Nominal Voltage	12/24V DC	12V DC	12/24V DC
Maximum Amperage	180A	100A per bus	100A per bus
Width in (mm)	4.88 (123.83)	9.25 (234.95)	10.50 (266.70)
Height in (mm)	7.75 (196.85)	7.75 (196.85)	7.50 (190.50)
Depth in (mm)	3.50 (88.90)	3.00 (76.20)	2.50 (63.50)



	1201	8378	1221
Style	360 Panel System	Traditional Metal	360 Panel System
Total Positions	16 Positions	18 Positions	Main + 19 Positions
Circuit Breakers (Part N°)	16 A-Series, 15A (7403)	15 A-Series, 15A (7210)	1 C-Series, 100A (7549) / 19 A-Series, 15A (7403)
Nominal Voltage	12V DC	12V DC	12V DC
Maximum Amperage	50A	100A	100A
Meter (Part N°)	8-16V (8003) / 0-50A (8022)	8-16V (8003) / 0-100A (8017)	Digital Multimeter (8248)
Width in (mm)	13.63 (346.08)	14.75 (374.65)	13.63 (346.08)
Height in (mm)	7.75 (196.85)	7.50 (190.50)	7.75 (196.85)
Depth in (mm)	3.00 (76.20)	2.50 (63.50)	4.00 (101.60)



	8379	8380	8264
Style	Traditional Metal	Traditional Metal	Traditional Metal
Total Positions	Main + 20 Positions	Main + 22 Positions	24 Positions
Circuit Breakers (Part N°)	1 C-Series, 100A (7250I) / 14 A-Series, 15A (7210)	1 C-Series, 100A (7250I) / 16 A-Series, 15A (7210)	15 A-Series, 15A (7210)
Nominal Voltage	12/24V DC	12V DC	12/24V DC
Maximum Amperage	100A	100A	100A per bus
Meter (Part N°)	Digital Multimeter (8248)	8-16V (8028) / 0-100A Micro	-
Width in (mm)	14.75 (374.65)	10.50 (266.70)	14.75 (374.65)
Height in (mm)	7.50 (190.50)	11.25 (285.75)	7.50 (190.50)
Depth in (mm)	4.00 (101.6)	3.00 (76.20)	2.50 (63.50)



Style	8381 Traditional Metal	8382 Traditional Metal
Total Positions	Main + 32 Positions	Main + 35 Positions
Circuit Breakers (Part N°)	1 C-Series, 100A (72501) / 23 A-Series, 15A (7210)	1 C-Series, 100A (72501) / 26 A-Series, 15A (7210)
Nominal Voltage	12V DC	12/24V DC
Maximum Amperage	100A	100A
Meter (Part N°)	8-16V (8003) / 0-100A (8017)	Digital Multimeter (8248)
Width in (mm)	14.75 (374.65)	14.75 (374.65)
Height in (mm)	11.25 (285.75)	11.25 (285.75)
Depth in (mm)	3.00 (76.20)	4.00 (101.6)

SAFE Boats specifies Blue Sea Systems 360 Panels aboard their Defender boats used by military and commercial agencies.



Branch Circuit Breaker Panels

AC Branch panels distribute current from a high amperage input into lower amperage circuits.

Features:

- On indicating LEDs in all circuit positions
- Backlit label positions

Component References:

- A-Series Circuit Breakers (p. 50-51)
- AC Analog Meters (p. 107)
- 360 Panel System includes PN 4206 label set (p. 117)
- Traditional Metal panels include PN 8031 label set (p. 117)
- Green ON-indicating LEDs (p. 117)



	8058	8158	1210	1211	8097	8197
Style	Traditional Metal		360 Panel System		Traditional Metal	
Total Positions	3 Positions		4 Positions		6 Positions	
Circuit Breakers (Part N°)	3 A-Series, 15A (7210)	3 A-Series, 8A (7299)	4 A-Series, 15A (7403)	4 A-Series, 8A (7401)	6 A-Series, 15A (7210)	6 A-Series, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Maximum Amperage	100A		100A		100A per bus	
Actuator Style	White Toggle		Flat Rocker		White Toggle	
Insulating Back Cover	4026 sold separately (p. 115)		1331 sold separately (p. 115)		-	
Width x Height in (mm)	5.25 (133.35) x 3.75 (95.25)		4.88 (123.83) x 4.75 (120.65)		10.50 (266.70) x 3.75 (95.25)	
Depth in (mm)	2.50 (63.50)		3.00 (76.20)		2.50 (63.50)	



	1228	1229	8059	8159
Style	360 Panel System		Traditional Metal	
Total Positions	8 Positions		8 Positions	
Circuit Breakers (Part N°)	8 A-Series, 15A (7403)	8 A-Series, 8A (7401)	5 A-Series, 15A (7210)	5 A-Series, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC
Maximum Amperage	100A		100A	
Actuator Style	Flat Rocker		White Toggle	
Insulating Back Cover	1341 sold separately (p. 115)		4027 sold separately (p. 115)	
Width x Height in (mm)	4.88 (123.83) x 7.75 (196.85)		5.25 (133.35) x 7.50 (190.50)	
Depth in (mm)	3.00 (76.20)		2.50 (63.50)	



	8411	8511	8478	8578	8480	8580
Style	Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	8 Positions		10 Positions		13 Positions	
Circuit Breakers (Part N°)	6 A-Series, 15A (7210)	6 A-Series, 8A (7299)	7 A-Series, 15A (7210)	7 A-Series, 8A (7299)	10 A-Series, 15A (7210)	10 A-Series, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Maximum Amperage	100A per bus		100A		100A	
Actuator Style	White Toggle		White Toggle		White Toggle	
Meter (Part N°)	-		0-150V (9353)	0-250V (9354)	-	
Insulating Back Cover	-		-		-	
Width x Height in (mm)	10.50 (266.70) x 4.50 (114.30)		5.25 (133.35) x 11.25 (285.75)		5.25 (133.35) x 11.25 (285.75)	
Depth in (mm)	2.50 (63.50)		2.50 (63.50)		2.50 (63.50)	



	8479	8579	8461	8561	8265	8165
Style	Traditional Metal		Traditional Metal		Traditional Metal	
Positions	13 Positions		16 Positions		24 Positions	
Circuit Breakers (Part N°)	10 A-Series, 15A (7210)	10 A-Series, 8A (7299)	10 A-Series, 15A (7210)	10 A-Series, 8A (7299)	15 A-Series, 15A (7210)	15 A-Series, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Maximum Amperage	100A per bus		100A per bus		100A per bus	
Meter (Part N°)	0-150V (9353)	0-250V (9354)	-	-	-	-
Actuator Style	White Toggle		White Toggle		White Toggle	
Insulating Back Cover	-		-		-	
Width in (mm)	10.50 (266.70) x 7.50 (190.50)		10.50 (266.70) x 7.50 (190.50)		14.75 (374.64) x 7.50 (190.50)	
Depth in (mm)	2.50 (63.50)		2.50 (63.50)		2.50 (63.50)	

230 Volt (typical of Europe)



Ranger Tugs R-31

Main Circuit Breaker Panels

The AC Main power system provides a path for delivering power from the ship's source of AC power to the AC branch distribution system. It begins at the AC power source (shore power, genset, or inverter), and ends at the AC branch circuit. See page 127 for a discussion of ABYC ELCI recommendations for AC Main circuit protection.

Features

- Red reverse polarity indication LED
- Green ON indicating LEDs
- Backlit label positions

Component References

- A-Series Circuit Breakers (p. 50–51)
- AC Analog Meters (p. 107)
- AC Digital Multimeter (p. 105)
- Red reverse polarity indication LED (p. 116)
- Green ON indicating LEDs (p. 116)
- Traditional Metal panels include PN 8031 label set (p. 117)
- 360 Panel System includes PN 4206 label set (p. 117)
- Source Selection Label Set included with panels 8077, 8177, 8079, and 8179 (p. 117)



	8077†	8177†	8079†	8179†	8029	8129	1214	1215
Style	Traditional Metal		Traditional Metal		Traditional Metal		360 Panel System	
Total Positions	Main Only		Main Only		Main + 1 position		Main + 2 positions	
A-Series Circuit Breakers (Part N°)	Main, 30A (7238)	Main, 16A (7294)	Main, 50A (7242)	Main, 32A (7295)	Main, 30A (7238)	Main, 16A (7294)	Main, 30A (7414) 2 Branch, 15A (7403)	Main, 16A (7412) 2 Branch, 8A (7401)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC		120V AC 230V AC		120V AC	230V AC
Actuator Style	White Toggle		White Toggle		White Toggle		Flat Rocker	
Insulating Back Cover	-		-		4026 sold separately (p. 115)		1331 sold separately (p. 115)	
Width x Height in (mm)	2.63 (66.80) x 3.75 (95.25)		2.63 (66.80) x 3.75 (95.25)		5.25 (133.35) x 3.75 (95.25)		4.88 (123.83) x 4.75 (120.65)	
Depth in (mm)	2.50 (63.50)		2.50 (63.50)		2.50 (63.50)		3.00 (76.20)	



	1206	1207	8043	8143	8409	8509	8405	8505
Style	360 Panel System		Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	Main + 2 positions		Main + 3 positions		Main + 3 positions		Main + 3 positions	
A-Series Circuit Breakers (Part N°)	Main, 30A (7414) 2 Branch, 15A (7403)	Main, 16A (7412) 2 Branch, 8A (7401)	Main, 30A (7238) 3 Branch, 15A (7210)	Main, 16A (7294) 3 Branch, 8A (7299)	Main, 30A (7238) 3 Branch, 15A (7210)	Main, 16A (7294) 3 Branch, 8A (7299)	Main, 30A (7238) 3 Branch, 15A (7210)	Main, 16A (7294) 3 Branch, 8A (7299)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC		120V AC 230V AC		120V AC	230V AC
Actuator Style	Flat Rocker		White Toggle		White Toggle		White Toggle	
Meter (Part N°)	0–150V (9353)	0–250V (8245)	0–150V (9353)	0–250V (8245)	0–150V (8244) 0–50A (8246)	0–250V (8245) 0–50A (8246)	Digital Multimeter (8247)	
Insulating Back Cover	1341 sold separately (p. 115)		4027 sold separately (p. 115)		4027 sold separately (p. 115)		4027 sold separately (p. 115)	
Width x Height in (mm)	4.88 (123.83) x 7.75 (196.85)		5.25 (133.35) x 7.50 (190.50)		5.25 (133.35) x 7.50 (190.50)		5.25 (133.35) x 7.50 (190.50)	
Depth in (mm)	3.00 (76.20)		2.50 (63.50)		3.00 (76.20)		4.00 (101.60)	



	8099	8199	8027	8127	8412	8512	1230	1233
Style	Traditional Metal		Traditional Metal		Traditional Metal		360 Panel System	
Total Positions	Main + 4 positions		Main + 6 positions		Main + 6 positions		Main + 6 positions	
A-Series Circuit Breakers (Part N°)	Main, 30A (7238) 4 Branch, 15A (7210)	Main, 16A (7294) 4 Branch, 8A (7299)	Main, 30A (7238) 3 Branch, 15A (7210)	Main, 16A (7294) 3 Branch, 8A (7299)	Main, 30A (7238) 4 Branch, 15A (7210)	Main, 16A (7294) 4 Branch, 8A (7299)	Main, 30A (7414) 6 Branch, 15A (7403)	Main, 16A (7412) 6 Branch, 8A (7401)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC		120V AC 230V AC		120V AC	230V AC
Actuator Style	White Toggle		White Toggle		White Toggle		Flat Rocker	
Insulating Back Cover	-		4027 sold separately (p. 115)		-		2 x 1331 sold separately (p. 115)	
Width x Height in (mm)	10.50 (266.70) x 3.75 (95.25)		5.25 (133.35) x 7.50 (190.50)		10.50 (266.70) x 4.50 (114.30)		9.25 (234.95) x 4.75 (120.65)	
Depth in (mm)	2.50 (63.50)		2.50 (63.50)		2.50 (63.50)		3.00 (76.20)	



	1202	1203	8074	8174	8488	8588	8406	8506
Style	360 Panel System		Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	Main + 6 positions		Main + 8 positions		Main + 8 positions		Main + 8 positions	
A-Series Circuit Breakers (PN)	Main, 30A (7414) 6 Branch, 15A (7403)	Main, 16A (7412) 6 Branch, 8A (7401)	Main, 30A (7238) 5 Branch, 15A (7210)	Main, 16A (7294) 5 Branch, 8A (7299)	Main, 30A (7238) 5 Branch, 15A (7210)	Main, 16A (7294) 5 Branch, 8A (7299)	Main, 30A (7238) 5 Branch, 15A (7210)	Main, 16A (7294) 5 Branch, 8A (7299)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC		120V AC 230V AC		120V AC 230V AC	
Actuator Style	Flat Rocker		White Toggle		White Toggle		White Toggle	
Meter (PN)	-		0-150V (8244) 0-50A (8246)	0-250V (8245) 0-50A (8246)	0-150V (9353)	0-250V (9354)	Digital Multimeter (8247)	
Insulating Back Cover	1341 sold separately (page 115)		-		-		-	
Width x Height in (mm)	4.88 (123.83) x 7.75 (196.85)		5.25 (133.35) x 11.25 (285.75)		5.25 (133.35) x 11.25 (285.75)		5.25 (133.35) x 11.25 (285.75)	
Depth in (mm)	3.00 (76.20)		3.00 (76.20)		2.50 (63.50)		4.00 (101.60)	



	8485	8585	8076	8176	8407	8507
Style	Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	Main + 11 positions		Main + 11 positions		Main + 11 positions	
A-Series Circuit Breakers (Part N°)	Main, 30A (7238) 8 Branch, 15A (7210)	Main, 16A (7294) 8 Branch, 8A (7299)	Main, 30A (7238) 8 Branch, 15A (7210)	Main, 16A (7294) 8 Branch, 8A (7299)	Main, 30A (7238) 8 Branch, 15A (7210)	Main, 16A (7294) 8 - Branch, 8A (7299)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC		120V AC 230V AC	
Actuator Style	White Toggle		White Toggle		White Toggle	
Meter (PN)	-		0-150V (8244) 0-50A (8246)	0-250V (8245) 0-50A (8246)	Digital Multimeter (8247)	
Insulating Back Cover	-		-		-	
Width x Height in (mm)	5.25 (133.35) x 11.25 (285.75)		10.50 (266.70) x 7.50 (190.50)		10.50 (266.70) x 7.50 (190.50)	
Depth in (mm)	2.50 (63.50)		3.00 (76.20)		4.00 (101.60)	



	8464	8564	8465	8565
Style	Traditional Metal		Traditional Metal	
Total Positions	Main + 14 positions		Main + 22 positions	
A-Series Circuit Breakers (Part N°)	Main, 30A (7238) 8 Branch, 15A (7210)	Main, 16A (7294) 8 Branch, 8A (7299)	Main, 30A (7238) 13 Branch, 15A (7210)	Main, 16A (7294) 13 Branch, 8A (7299)
Nominal Voltage	120V AC 230V AC		120V AC 230V AC	
Actuator Style	White Toggle		White Toggle	
Meter (Part N°)	-		-	
Insulating Back Cover	-		-	
Width x Height in (mm)	10.50 (266.70) x 7.50 (190.50)		14.75 (374.65) x 7.50 (190.50)	
Depth in (mm)	2.50 (63.50)		2.50 (63.50)	

Source Selection Circuit Breaker Panels

AC Source Selection panels allow the boater to select between two or three AC sources to supply power to the AC Branch distribution system

Features

- Lockout slides ensure that no two sources of AC power are connected to the circuit simultaneously
- Backlit label positions

Component References

- A-Series Circuit Breakers (p. 50-51)
- AC Analog Meters (p. 107)
- AC Digital Multimeter (p. 105)
- Red reverse polarity indication LED (p. 116)
- Green ON indicating LEDs (p. 116)
- Traditional Metal panels with Branch circuit breakers include PN 8031 label set (p. 117)
- 360 Panel System panels with Branch circuit breakers include PN 4206 label set (p. 117)
- All Panels include a Reverse Polarity label and a Source Selection label set (p. 117)



	1208	1209	1231	1232	8032	8132	8061	8161
Style	360 Panel System		360 Panel System		Traditional Metal		Traditional Metal	
Total Positions	2 Sources		2 Sources		2 Sources		2 Sources	
A-Series Circuit Breakers (Part N°)	2 Main, 30A (7574)	2 Main, 16A (7572)	2 Main, 50A (7577)	2 Main, 32A (7575)	2 Main, 30A (7238)	2 Main, 16A (7294)	2 Main, 50A (7242)	2 Main, 32A (7295)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Actuator Style	Raised Rocker		Raised Rocker		White Toggle		White Toggle	
Insulating Back Cover	1331 sold separately (p. 115)		1331 sold separately (p. 115)		4026 sold separately (p. 115)		4026 sold separately (p. 115)	
Width x Height in (mm)	4.88 (123.83) x 4.75 (120.65)		4.88 (123.83) x 4.75 (120.65)		5.25 (133.35) x 3.00 (76.20)		5.25 (133.35) x 3.00 (76.20)	
Depth in (mm)	3.00 (76.20)		3.00 (76.20)		3.00 (76.20)		3.00 (76.20)	



	8498	8598	8499	8599	8467	8567
Style	Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	3 Sources + Transfer		2 Sources + 4 positions		2 Sources + 4 positions	
A-Series Circuit Breakers (Part N°)	2 Main, 30A (7238) 1 Main, 50A (7242) 1 Transfer, 30A (7238)	2 Main, 16A (7294) 1 Main, 32A (7295) 1 Transfer, 16A (7294)	2 Main, 30A (7238) 2 Branch, 15A (7210)	2 Main, 16A (7294) 2 Branch, 8A (7299)	2 Main, 30A (7238) 2 Branch, 15A (7210)	2 Main, 16A (7294) 2 Branch, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Actuator Style	White Toggle		White Toggle		White Toggle	
Insulating Back Cover	-		-		4027 sold separately (p. 115)	
Width x Height in (mm)	10.50 (266.70) x 4.50 (114.30)		10.50 (266.70) x 4.50 (114.30)		5.25 (133.35) x 7.50 (190.50)	
Depth in (mm)	3.00 (76.20)		3.00 (76.20)		3.00 (76.20)	



	8489	8589	8462	8562	8466	8566
Style	Traditional Metal		Traditional Metal		Traditional Metal	
Total Positions	2 Sources + 6 positions		2 Sources + 9 positions		2 Sources + 9 positions	
A-Series Circuit Breakers (Part N°)	2 Main, 30A (7238) 3 Branch, 15A (7210)	2 Main, 16A (7294) 3 Branch, 8A (7299)	2 Main, 30A (7238) 6 Branch, 15A (7210)	2 Main, 16A (7294) 6 Branch, 8A (7299)	2 Main, 30A (7238) 6 Branch, 15A (7210)	2 Main, 16A (7294) 6 Branch, 8A (7299)
Nominal Voltage	120V AC	230V AC	120V AC	230V AC	120V AC	230V AC
Actuator Style	White Toggle		White Toggle		White Toggle	
Meter	0-150V (9353)	0-250V (9354)	0-150V (9353)	0-250V (9354)	-	
Insulating Back Cover	-		-		-	
Width x Height in (mm)	5.25 (133.35) x 11.25 (285.75)		10.50 (266.70) x 7.50 (190.50)		5.25 (133.35) x 11.25 (285.75)	
Depth in (mm)	3.00 (76.20)		3.00 (76.20)		3.00 (76.20)	

Residual Current Circuit Breaker Panels GFCI Branch and ELCI Main

Reduces the risk of fire and shock hazards caused by defects in boat appliances and circuit wiring. See page 54 for a review of new ABYC ELCI recommendations for AC Main circuit protection.

Features

- Provides Main circuit protection with branch circuits

Component References

- GFCI Branch and ELCI Main Circuit Breakers (p. 55)
- A-Series Circuit Breakers (p. 50-51)
- Analog Meters (p. 106-107)



	1500	1502	8100	1190	8101
Style	360 Panel System	360 Panel System	Traditional Metal	360 Panel System	Traditional Metal
Total Positions	GFCI + 2 Positions	ELCI + 1 Position	ELCI	ELCI + 1 position	ELCI + 5 positions
GFCI/ELCI Circuit Breaker (Part N°)	1 - GFCI Branch, 15A AC (3100)	1 - ELCI Main, 30A AC (3102)	1 - ELCI Main, 30A AC (3106)	1 - ELCI Main, 30A AC (3102)	1 - ELCI Main, 30A AC (3106)
A-Series Circuit Breaker (Part N°)	-	-	-	1 - Branch, 15A AC (7403)	2 - Branch, 15A AC (7210)
Amperage Trip Reference	15A AC	30A AC	30A AC	30A AC	30A AC
Leakage Trip Amperage	5mA	30mA	30mA	30mA	30mA
Maximum Voltage	120V AC	120V AC	120V AC	120V AC	120V AC
Actuator Style	Flat Rocker	Flat Rocker	White Toggle	Flat Rocker	White Toggle
Insulating Panel Back	1331 sold separately (p. 115)	1331 sold separately (p. 115)	-	1331 sold separately (p. 115)	-
Meter (PN)	-	-	-	-	-
Width x Height in (mm)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 7.50 (190.50)
Depth in (mm)	3.00 (76.20)	3.99 (101.4)	3.50 (88.90)	3.99 (101.4)	3.50 (88.90)

120/240 Volt AC (60Hz) Circuit Breaker Panels

Provides circuit protection for boats with 240 Volt AC systems

Features

- 1168 Provides 1 spare rocker aperture

Component References

- C-Series Flat Rocker Circuit Breakers—triple-pole (p. 53)
- C-Series Toggle Circuit Breakers—triple-pole (p. 52)



	8102	1193
Style	Traditional Metal	360 Panel System
Total Positions	ELCI + 2 positions	ELCI + 5 positions
ELCI Circuit Breaker (Part N°)	1 - ELCI Main, 30A AC (3106)	1 - ELCI Main, 30A AC (3102)
A-Series Circuit Breaker (Part N°)	2 - Branch, 15A AC (7210)	4 - Branch, 15A AC (7403)
Amperage Trip Reference	30A AC	30A AC
Leakage Trip Amperage	30mA	30mA
Maximum Voltage	120V AC	120V AC
Actuator Style	White Toggle	Flat Rocker
Insulating Panel Back	-	2 x 1331 sold separately (p. 115)
Meter (Part N°)	0-150V AC (9353)	-
Width x Height in (mm)	5.25 (133.35) x 7.50 (190.50)	9.25 (234.95) x 4.75 (120.65)
Depth in (mm)	3.50 (88.9)	3.99 (101.4)



	7372	1168
Style	Traditional Metal	360 Panel System
Total Positions	Main Only	Main + 1 Position
C-Series Circuit Breaker (Part N°)	1 Main, 50A (7287)	1 Main, 50A (7565)
Poles	3	3
Nominal Voltage	120/240V AC	120/240V AC
Maximum Voltage	240V AC	240V AC
Actuator Style	White Toggle	Flat Rocker
Meter (Part N°)	-	-
Width in (mm)	5.25 (133.35)	4.88 (123.83)
Height in (mm)	3.75 (95.25)	4.75 (120.65)
Depth in (mm)	3.00 (76.20)	3.00 (76.20)

Source Selection Rotary Switch Panels

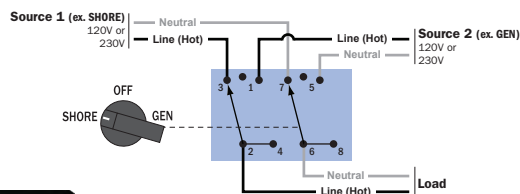
Heavy duty industrial rated switches provide a compact and intuitive solution for safely managing AC sources when circuit protection is provided elsewhere. Panels include ON and Red REVERSE POLARITY indicating LEDs and Source Selection Label Set (label list shown on page 120).

360 Panel System panels include backlit label positions.

30 Amp 2 Positions + OFF, 2 Pole

Rotary Switch

- Switches 2 sources
- Allows connecting one of two different AC sources to one circuit



PN 9009
Regulatory

CE marked
UL listed

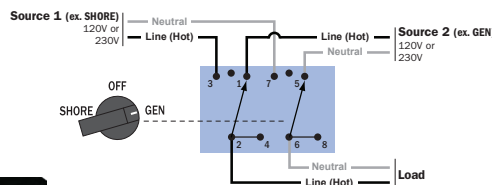


	9009	1481	1484	8367	8359
Style	Rotary Switch	360 Panel System	360 Panel System	Traditional Metal	Traditional Metal
Voltage Maximum Operating	600V AC	120V AC	230V AC	120V AC	230V AC
Wire Size Range	14-10 AWG	14-10 AWG	14-10 AWG	14-10 AWG	14-10 AWG
Insulating Panel Back	-	1331 sold separately (p. 115)	1331 sold separately (p. 115)	4026 sold separately (p. 115)	4026 sold separately (p. 115)
Width x Height in (mm)	1.89 (48.00) x 1.89 (48.00)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	1.91 (48.51)	1.91 (48.51)	1.91 (48.51)	1.91 (48.51)	1.91 (48.51)

65 Amp 2 Positions + OFF, 2 Pole

Rotary Switch

- Switches 2 sources
- Allows connecting one of two different AC sources to one circuit



PN 9011
Regulatory

CE marked
UL listed

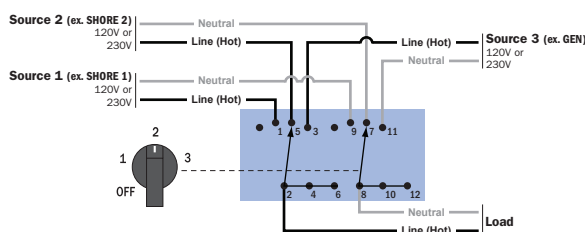


	9011	1483	1486	8365	8357
Style	Rotary Switch	360 Panel System	360 Panel System	Traditional Metal	Traditional Metal
Voltage Maximum Operating	600V AC	120V AC	230V AC	120V AC	230V AC
Wire Size Range	12-6 AWG	12-6 AWG	12-6 AWG	12-6 AWG	12-6 AWG
Insulating Panel Back	-	1331 sold separately (p. 115)	1331 sold separately (p. 115)	4026 sold separately (p. 115)	4026 sold separately (p. 115)
Width x Height in (mm)	2.52 (64.00) x 2.52 (64.00)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)

30 Amp 3 Positions + OFF, 2 Pole

Rotary Switch

- Switches 3 sources
- Allows connecting one of three different AC sources to one circuit



PN 9010
Regulatory

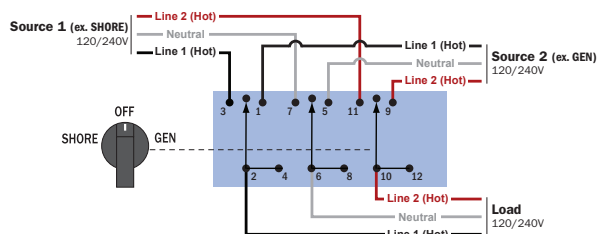
CE marked
UL listed



	9010	1482	1485	8366	8358
Style	Rotary Switch	360 Panel System	360 Panel System	Traditional Metal	Traditional Metal
Voltage Maximum Operating	600V AC	120V AC	230V AC	120V AC	230V AC
Wire Size Range	14-10 AWG	14-10 AWG	14-10 AWG	14-10 AWG	14-10 AWG
Insulating Panel Back	-	1331 sold separately (p. 115)	1331 sold separately (p. 115)	4026 sold separately (p. 115)	4026 sold separately (p. 115)
Width x Height in (mm)	1.89 (48.00) x 1.89 (48.00)	4.88 (123.83) x 4.75 (120.65)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)	2.41 (61.21)

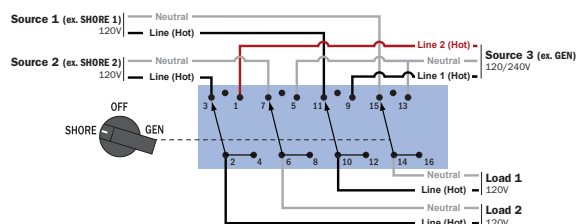
65 Amp 2 Positions + OFF, 3 Pole Rotary Switch

- Switches 2—120/240 Volt AC sources
- Switches both lines (hots) and neutral
- Allows connecting one of two different AC sources to one circuit



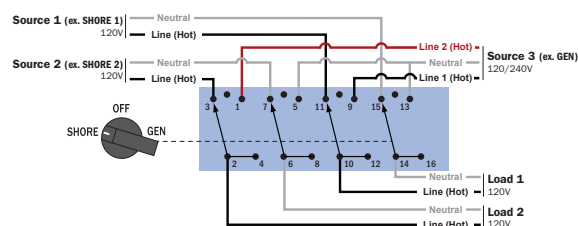
30 Amp 2 Positions + OFF, 4 Pole Rotary Switch

- Switches between 2—120 Volt AC shore power sources and 1—120/240 Volt AC source to 2—120 Volt AC load groups
- Switches both lines (hots) and neutral



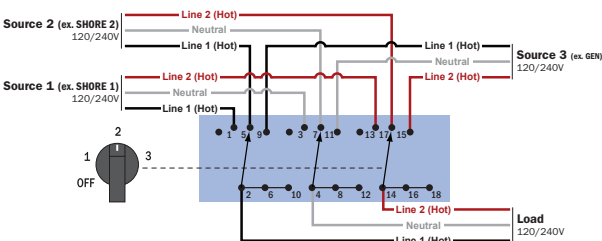
65 Amp 2 Positions + OFF, 4 Pole Rotary Switch

- Switches between 2—120 Volt AC shore power sources and 1—120/240 Volt AC source to 2—120 Volt AC load groups
- Switches both lines (hots) and neutral



65 Amp 3 Positions + OFF, 3 Pole Rotary Switch

- Switches 3—120/240 Volt AC sources
- Switches both lines (hot) and neutral
- Allows connecting one of three different AC sources to one circuit



PN 9019
Regulatory

CE marked
UL listed



	9019	1487	8363
Style	Rotary Switch	360 Panel System	Traditional Metal
Voltage Maximum Operating	600V AC	240V AC	240V AC
Wire Size Range	12-6 AWG	12-6 AWG	12-6 AWG
Insulating Panel Back	-	-	-
Width x Height in (mm)	2.52 (64.00) x 2.52 (64.00)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	3.65 (92.71)	3.65 (92.71)	3.65 (92.71)

PN 6337
Regulatory

CE marked
UL listed



	6337	1489	8386
Style	Rotary Switch	360 Panel System	Traditional Metal
Voltage Maximum Operating	600V AC	240V AC	240V AC
Wire Size Range	14-10 AWG	14-10 AWG	14-10 AWG
Insulating Panel Back	-	1331 sold separately (p. 115)	-
Width x Height in (mm)	1.89 (48.00) x 1.89 (48.00)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	2.98 (75.69)	2.98 (75.69)	2.98 (75.69)

PN 9093
Regulatory

CE marked
UL listed



	9093	1480	8369
Style	Rotary Switch	360 Panel System	Traditional Metal
Voltage Maximum Operating	600V AC	240V AC	240V AC
Wire Size Range	12-6 AWG	12-6 AWG	12-6 AWG
Insulating Panel Back	-	-	-
Width x Height in (mm)	2.52 (64.00) x 2.52 (64.00)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	4.50 (114.30)	4.50 (114.30)	4.50 (114.30)

PN 9077
Regulatory

CE marked
UL listed



	9077	1488	8361
Style	Rotary Switch	360 Panel System	Traditional Metal
Voltage Maximum Operating	600V AC	240V AC	240V AC
Wire Size Range	12-6 AWG	12-6 AWG	12-6 AWG
Insulating Panel Back	-	-	-
Width x Height in (mm)	2.52 (64.00) x 2.52 (64.00)	4.88 (123.83) x 4.75 (120.65)	5.25 (133.35) x 3.75 (95.25)
Depth in (mm)	5.50 (139.70)	5.50 (139.70)	5.50 (139.70)

Combination Circuit Breaker Panels

Combines AC and DC switching, circuit protection, source selection and monitoring into a single panel

Features

- ON indicating LEDs installed in all circuit positions
- Backlit label positions
- Includes toggle switch to monitor voltage on up to three batteries
- Circuit identification label sets included
- Insulating covers are included with 360 Panel System AC/DC panels

Component References:

- A-Series Circuit Breakers (p. 50–51)
- C-Series Circuit Breakers (p. 52–53)
- DC and AC Analog Meters (p. 106–107)
- DC and AC Digital Multimeters (p. 104–105)
- 360 Panel System AC Insulating Rear Covers (p. 115)
- Traditional Metal Panel AC insulating Rear Covers (p. 115)
- Traditional Metal panels include PN 8031 and PN 8030 label set (p. 117)
- 360 Panel System panels include PN 4206 and PN 4205 label set (p. 117)



	8084	8184
Style	Traditional Metal	
Total AC Positions	Main + 6 positions	
Total DC Positions	Main + 15 positions	
AC Circuit Breakers (Part N°)	Main, 30A AC (7238) 3 Branch, 15A AC (7210)	Main, 16A AC (7294) 3 Branch, 8A AC (7299)
DC Circuit Breakers (Part N°)	Main, 100A DC (7250I) 9 Branch, 15A DC (7210)	Main, 100A DC (7250I) 9 Branch, 15A DC (7210)
AC/DC Voltage	120V AC/12V DC	230V AC/12V DC
Insulating Panel Back	PN 4029 sold separately (p. 115)	
Actuator Style	White Toggle	
AC Meters (Part N°)	0–150V AC (9353)	0–250V AC (9354)
DC Meters (Part N°)	8–16V DC (8003), 0–100A DC (8017)	
Width x Height in (mm)	14.75 (374.65) x 10.00 (254.00)	
Depth in (mm)	3.00 (76.20)	

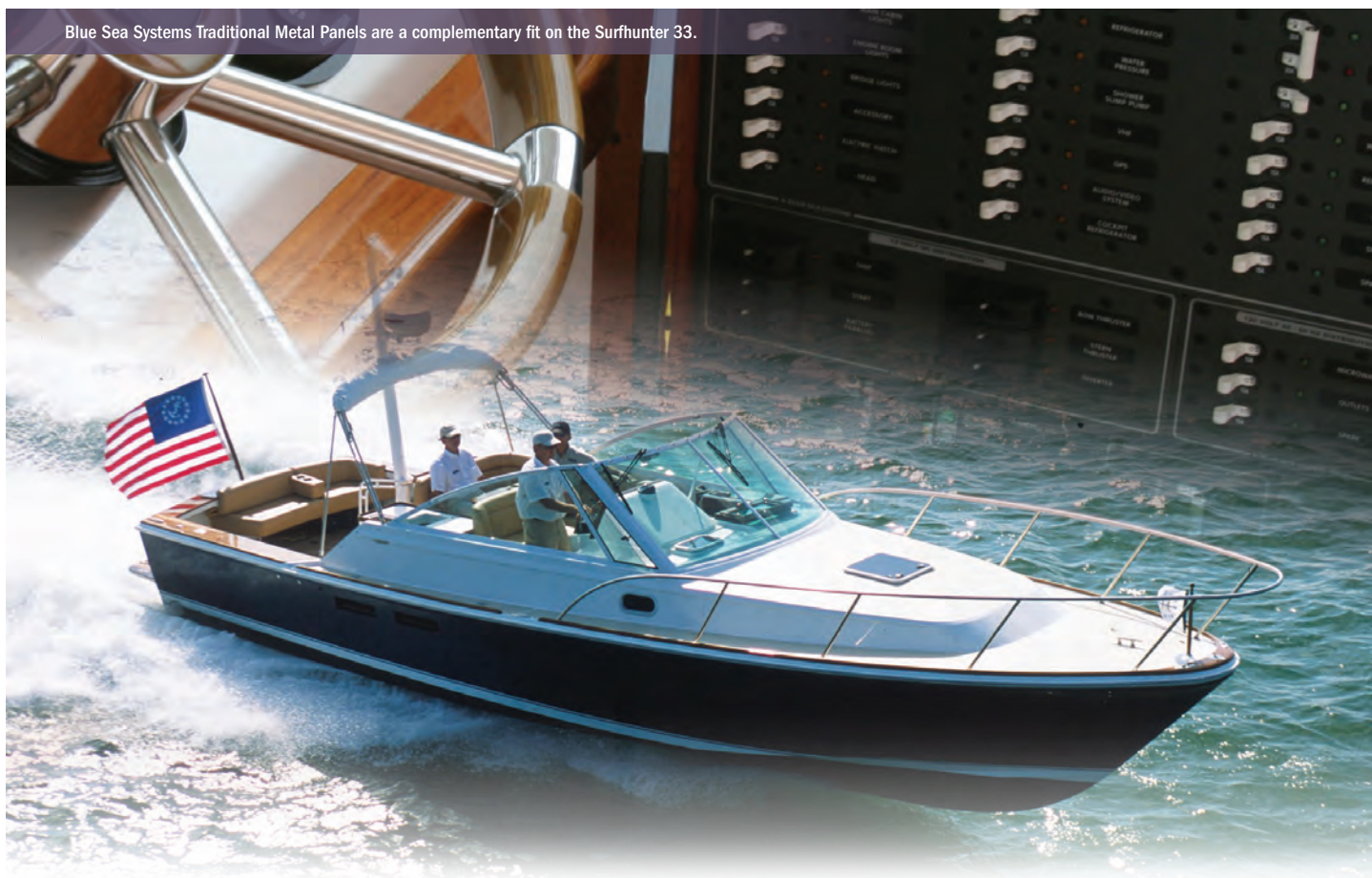


	8095	8195	1218	1219
Style	Traditional Metal		360 Panel System	
Total AC Positions	Main + 8 positions		Main + 6 positions	
Total DC Positions	Main + 29 positions		Main + 19 positions	
AC Circuit Breakers (Part N°)	Main, 30A AC (7238) 5 Branch, 15A AC (7210)	Main, 16A AC (7294) 5 Branch, 8A AC (7299)	Main, 30A AC (7414) 6 Branch, 15A AC (7403)	Main, 16A AC (7412) 6 Branch, 8A AC (7401)
DC Circuit Breakers (Part N°)	Main, 100A DC (7250I) 20 Branch, 15A DC (7210)	Main, 100A DC (7250I) 20 Branch, 15A DC (7210)	Main, 100A DC (7549) 19 Branch, 15A DC (7403)	Main, 100A DC (7549) 19 Branch, 15A DC (7403)
AC/DC Voltage	120V AC/12V DC	230V AC/12V DC	120V AC/12V DC	230V AC/12V DC
Insulating Panel Back	-		Included with panel (p. 115)	
Actuator Style	White Toggle		Flat Rocker	
AC Meters (Part N°)	0–150V AC (9353), 0–50A AC (9630)	0–250V AC (9354), 0–50A AC (9630)	AC Digital Multimeter (8247)	
DC Meters (Part N°)	8–16V DC (8003), 0–100A DC (8017)		DC Digital Multimeter (8248)	
Width x Height in (mm)	19.50 (495.30) x 11.50 (292.10)		13.63 (346.08) x 10.75 (273.05)	
Depth in (mm)	3.00 (76.20)		4.00 (101.60)	



	8408	8508	8086	8186
Style	Traditional Metal		Traditional Metal	
Total AC Positions	Main + 6 positions		3 Sources + 12 positions + Transfer	
Total DC Positions	Main + 18 positions		Main + 19 positions	
AC Circuit Breakers (Part N°)	Main, 30A AC (7238) 3 Branch, 15A AC (7210)	Main, 16A AC (7294) 3 Branch, 8A AC (7299)	2 Main, 30A AC (7238) 1 Main, 50A AC (7242) 1 Transfer, 30A (7238) 6 Branch, 15A AC (7210)	2 Main, 16A AC (7294) 1 Main, 32A AC (7295) 1 Transfer, 16A (7294) 6 Branch, 8A AC (7299)
DC Circuit Breakers (Part N°)	Main, 100A DC (7250I) 12 Branch, 15A DC (7210)	Main, 100A DC (7250I) 12 Branch, 15A DC (7210)	Main, 100A DC (7250I) 13 Branch, 15A DC (7210)	
AC/DC Voltage	120V AC/12/24V DC	230V AC/12/24V DC	120V AC/12V DC	230V AC/12V DC
Insulating Panel Back	-		PN 4031 sold separately (p. 115)	
Actuator Style	White Toggle		White Toggle	
AC Meters (Part N°)	AC Digital Multimeter (8247)		0-150V AC (9353), 0-50A AC (9630)	0-250V AC (9354), 0-50A AC (9630)
DC Meters (Part N°)	DC Digital Multimeter (8248)		8-16V DC (8003), 0-100A DC (8017)	
Width x Height in (mm)	15.75 (400.05) x 10.00 (254.00)		19.50 (495.30) x 11.50 (292.10)	
Depth in (mm)	4.00 (101.60)		3.00 (76.20)	

Blue Sea Systems Traditional Metal Panels are a complementary fit on the Surfhunter 33.



AC ~ DC ==

Custom 360 Panel System

POWER DISTRIBUTION



Custom Panel Solutions In Days, Not Weeks

Blue Sea Systems understands that a stock panel may not meet the needs of every boater. A custom panel can be created for a unique application in a fraction of the time required by a custom panel shop.

Custom 360 Panels are hand assembled at Blue Sea Systems in Bellingham, Washington, and are shipped within seven days of order receipt.

Design a custom panel using the Panel Wizard or the Custom 360 Panel Worksheet. Both are available at www.bluesease.com.



Blue Sea Systems labels are made using a scratch resistant polycarbonate material and are back-printed for durability. Custom Labels for the 360 Panel System can be ordered in any language and are available directly from Blue Sea Systems along with over 500 standard or square format labels.



20005

You Can Do It, Design and Order a Custom 360 Panel Guide (20 guides per pack)

See page 128 for other You Can Do It Guides and marketing materials



Scan to design and order your custom panel online

Design and order your custom panel in 3 easy steps:

1. **Launch** the Panel Wizard at panelwizard.bluesease.com



2. **Design** the panel with modules, circuit breakers, and labels. The price list is updated with each change.

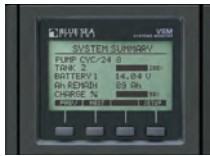


3. **Confirm** the panel design and submit an order



Panels ship within seven business days of order receipt

Available Modules and Frames for Custom 360 Panels



Vessel Systems Monitor p. 102

NEW



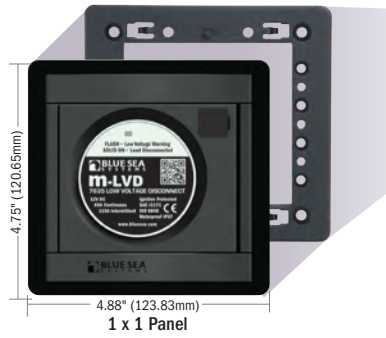
P12 Battery Charger Remote Display p. 10



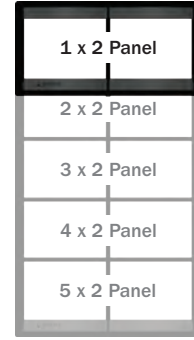
DIN Meter
see panelwizard.bluesea.com



Digital Meter p. 104



1 x 1 Panel



Analog Meter p. 106

NEW

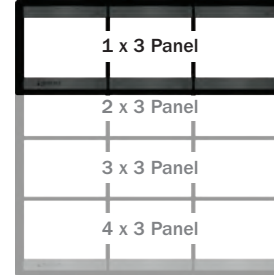


M-ACR Automatic Charging Relay p. 15

NEW



M-LVD Low Voltage Disconnect p. 15



M-Series Battery Switch p. 15

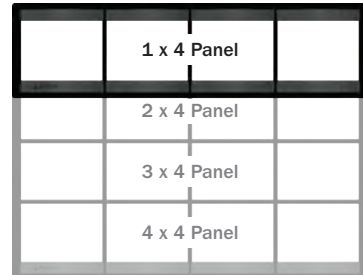
NEW



Battery Management Blank p. 61



Battery Management p. 61



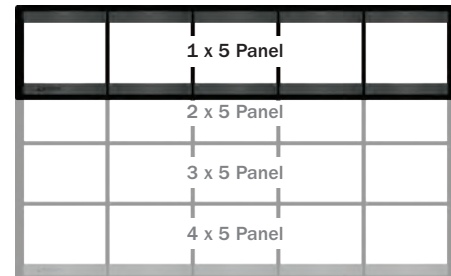
Medium Duty Push Button Circuit Breakers p. 47



285-Series Circuit Breakers p. 48



Push Button Circuit Breakers p. 82



Residual Current Circuit Breaker p. 91



Flat Rocker Circuit Breakers p. 82, 86, 88, 90



Push Button Circuit Breakers with Rocker Switches p. 82



Rotary Switch Source Selection p. 92-93



2 Inch Gauge p. 111



Bilge Pump p. 61



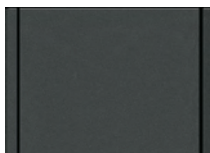
Sockets p. 114



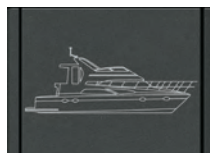
Socket, Dual USB Charger p. 114



120V AC Dual Outlet p. 115



Blank p. 115



Pad Printed Blank
Contact Blue Sea Systems for more information



European DIN Rail

Rows x Columns	Panel Height in (mm)	Panel Width in (mm)	Cut out Height in (mm)	Cut out Width in (mm)
1 x 1	4.75 (120.65)	4.88 (123.83)	3.31 (84.07)	4.38 (111.13)
2 x 1	7.75 (196.85)	4.88 (123.83)	6.31 (160.27)	4.38 (111.13)
3 x 1	10.75 (273.05)	4.88 (123.83)	9.31 (236.47)	4.38 (111.13)
4 x 1	13.75 (349.25)	4.88 (123.83)	12.31 (312.67)	4.38 (111.13)
5 x 1	16.75 (425.45)	4.88 (123.83)	15.31 (388.87)	4.38 (111.13)
1 x 2	4.75 (120.65)	9.25 (234.95)	3.31 (84.07)	8.75 (222.25)
2 x 2	7.75 (196.85)	9.25 (234.95)	6.31 (160.27)	8.75 (222.25)
3 x 2	10.75 (273.05)	9.25 (234.95)	9.31 (236.47)	8.75 (222.25)
4 x 2	13.75 (349.25)	9.25 (234.95)	12.31 (312.67)	8.75 (222.25)
5 x 2	16.75 (425.45)	9.25 (234.95)	15.31 (388.87)	8.75 (222.25)
1 x 3	4.75 (120.65)	13.63 (346.08)	3.31 (84.07)	13.13 (333.38)
2 x 3	7.75 (196.85)	13.63 (346.08)	6.31 (160.27)	13.13 (333.38)
3 x 3	10.75 (273.05)	13.63 (346.08)	9.31 (236.47)	13.13 (333.38)
4 x 3	13.75 (349.25)	13.63 (346.08)	12.31 (312.67)	13.13 (333.38)
1 x 4	4.75 (120.65)	18.00 (457.20)	3.31 (84.07)	17.50 (444.50)
2 x 4	7.75 (196.85)	18.00 (457.20)	6.31 (160.27)	17.50 (444.50)
3 x 4	10.75 (273.05)	18.00 (457.20)	9.31 (236.47)	17.50 (444.50)
4 x 4	13.75 (349.25)	18.00 (457.20)	12.31 (312.67)	17.50 (444.50)
1 x 5	4.75 (120.65)	22.38 (568.33)	3.31 (84.07)	21.88 (555.63)
2 x 5	7.75 (196.85)	22.38 (568.33)	6.31 (160.27)	21.88 (555.63)
3 x 5	10.75 (273.05)	22.38 (568.33)	9.31 (236.47)	21.88 (555.63)
4 x 5	13.75 (349.25)	22.38 (568.33)	12.31 (312.67)	21.88 (555.63)

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

Custom 360 Panel System Gallery

Blue Sea Systems Custom 360 Panels are installed as original equipment aboard the world's finest boats, commercial equipment, and recreational vehicles. The 360 Panel's flexible and contemporary design make it ideally suited for all types of vessels and vehicles. Panels are hand assembled in Bellingham, Washington by technicians who share a passion for quality.



Robertson and Caine use Blue Sea Systems Custom 360 Panels as original equipment aboard their catamarans, including the Leopard 58.



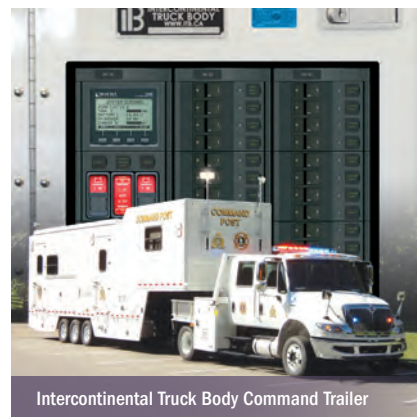
EarthRoamer XV-LT



SAFE Boats Defender 380x



MJM Yachts 40z Downeast



Intercontinental Truck Body Command Trailer



Tartan Yachts installs Blue Sea Systems 360 Panels with digital meters aboard the award winning Tartan 4000.

AC ~ DC

Vessel Systems Monitor VSM 422

The Vessel Systems Monitor VSM 422 performs comprehensive monitoring of four boat systems in one compact meter, saving space and money.

By monitoring DC (including battery state of charge), AC, tanks, and bilge pump, the VSM 422 alerts boaters to problems before they become emergencies.

The ability to monitor state of charge is critical to safe boating. By using a complex calculation of voltage, amperage, and amp-hours remaining, the VSM 422 is able to provide accurate and timely information about state of charge on the house battery to help boaters know when it's time to recharge. The VSM 422 also monitors temperature on the primary battery with the included Battery Temperature Sensor.

AC monitoring includes voltage, amperage, wattage, and frequency. Tank monitoring for up to three tanks includes alarm functions for high and low levels, and bilge pump monitoring includes pump active, cycle count, and duration.

With its user-friendly interface, intuitive display modes, and versatile case design, the Vessel Systems Monitor VSM 422 is an excellent replacement for four separate system monitors.

Retail Packaging Includes:

head unit, surface mount bezel, surface mount gasket, DC Current Shunt 8255, AC Current Transformer 8256, Battery Temperature Sensor 1820, connectors, mounting screws and screw driver

DC Specifications

Nominal System Voltage 12 or 24V
Operating Voltage 8.5-33.0V
Minimum Current Draw 35mA @ 12V, backlight off
18.8mA @ 24V, backlight off

Voltage Accuracy +/- 0.5%
Current Range 0-500A
Current Accuracy +/- 1.0%

AC Specifications

Nominal System Voltage 120V @ 60Hz, North America
230V @ 50Hz, Typical of Europe
Operating Voltage 0-300V
Voltage Accuracy (RMS) +/- 0.5%
Current Range 0-150A
Current Accuracy (RMS) +/- 2.0%
Frequency 40-90Hz

Regulatory

CE Marked for E60945 electromagnetic interference

Unit face is IP67-protected against immersion up to 1 meter for 30 minutes (see inside back cover)

VSM 422 Surface Mount Gasket creates a waterproof seal on unit face

Tank Senders Supported:

10 - 180 Ω VDO-Typical of Europe

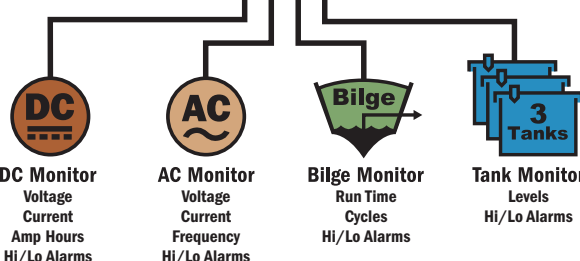
240 - 33 Ω Teleflex-North America

Blue Sea Systems Ultrasonic Tank Senders (sold separately)

• for diesel, water, or waste 1810 (32" tank depth)

• for gasoline 1811 (24" tank depth)

VSM
422™



PN	Description
1800	VSM retail packaged in box
1801	VSM retail packaged in clam



1800

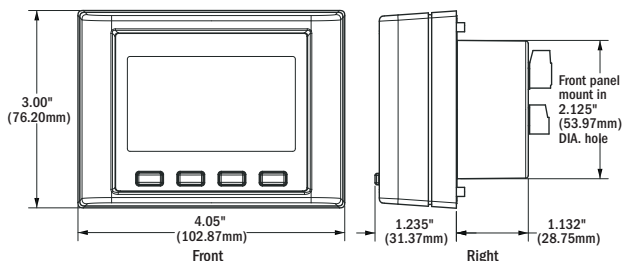


1801

Three Mounting Options



VSM 422 Panel Mounting Options



1325 (meter not included)



1519 (meter not included)

PN	Description	Width in (mm)	Height in (mm)
1325	360 Mounting Kit Module	-	-
1519	360 Blank Panel	4.88 (123.83)	4.75 (120.65)

VSM 422 Ultrasonic Tank Senders

24" Gasoline tank sender for exclusive use with VSM 422

- For tanks up to 24" deep
- Anti-slosh algorithms for accurate readings
- Ignition protected

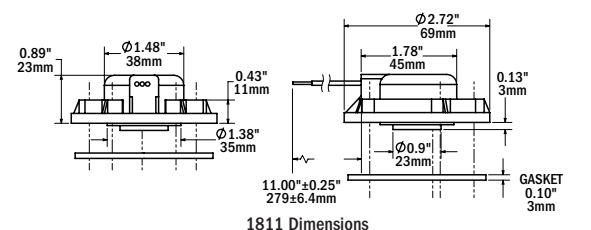
32" Diesel/Water/Waste tank sender for exclusive use with VSM 422

- For tanks up to 32" deep
- Anti-slosh algorithms for accurate readings
- Ignition protected

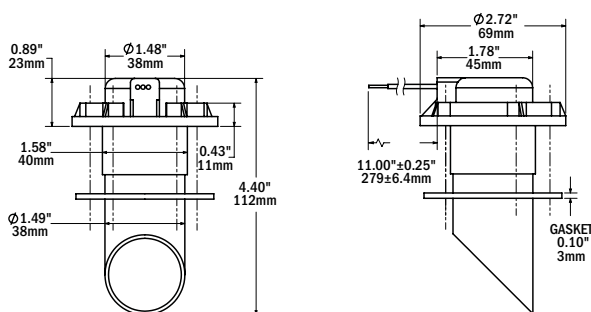
Part N°	Vm _{xo} Voltage Max. Operating	Depth
1811	32V DC	24"
1810	32V DC	32"

Limitations and considerations for mounting the ultrasonic tank senders:

- Senders are calibrated to the VSM 422 and will not function with other monitors
- Senders must be mounted 4" or greater distance from a tank side or baffle
- Tank floor must not be sloped
- Tanks must not be deeper than 24" for the 1811 or 32" for the 1810
- Sender must be mounted perpendicular to the surface of the liquid
- To avoid voltage drop, the sender negative connection should be made as close as possible to the VSM 422
- Rapid filling and draining may interrupt reading output



1811 Dimensions



1810 Dimensions

VSM 422 Battery Temperature Sensor

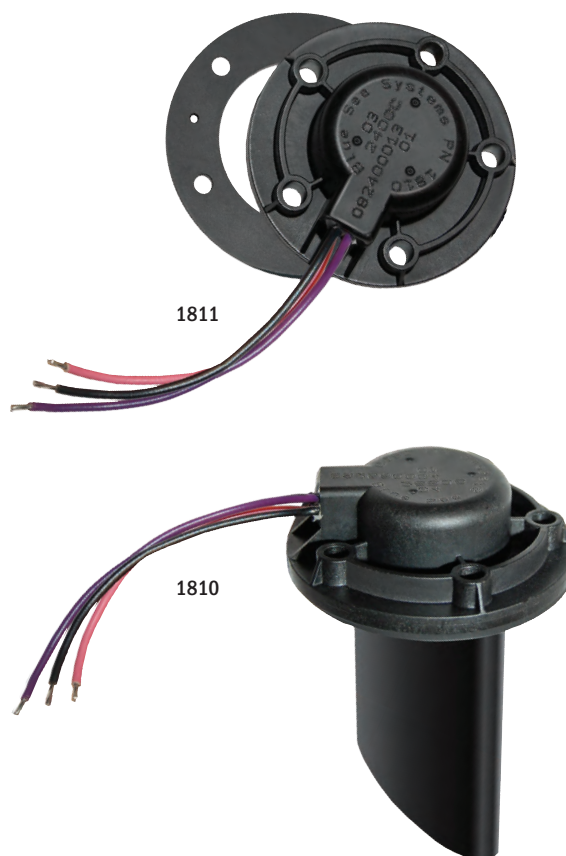
Battery temperature sensor for exclusive use with VSM 422

- Measures temperature on primary battery

Part N°	Description
1820	Battery Temperature Sensor



1820



1811

1810



Fathom Yachts Expedition 40 installs Blue Sea Systems 360 Panels with the digital Vessel Systems Monitor.

Digital Meters

Allows easy monitoring of key DC functions

- Large, bright LED characters
- Three levels of brightness
- Splash-proof front
- Easy to surface mount in a 2" round hole

Specifications:

Display Character Size	9/16"
Power Supply Voltage	8-50V DC
Max. Power Consumption	1.00W*
Min. Power Consumption	0.60W*



8251
DC Voltmeter with Alarm

Voltage Measurement:	
Range	0-60V DC
Resolution	0.01V DC
Accuracy (% of Reading)	± 0.5%**



8248
DC Multimeter with Alarm

Voltage Measurement:	
Range	0-60V DC
Resolution	0.01V DC
Accuracy (% of Reading)	± 0.5%**
Current Measurement:	
Shunt	500A/50mV
Range	± 500A DC
Resolution (-100 to -500)	1A DC
Resolution (-99.9 to +500)	0.1A DC
Accuracy (% of Reading)	± 0.5%**



8236
DC Ammeter

Current Measurement:	
Shunt	500A/50mV
Range	± 500A DC
Resolution (-100 to -500)	1A DC
Resolution (-99.9 to +500)	0.1A DC
Accuracy (% of Reading)	± 0.5%**

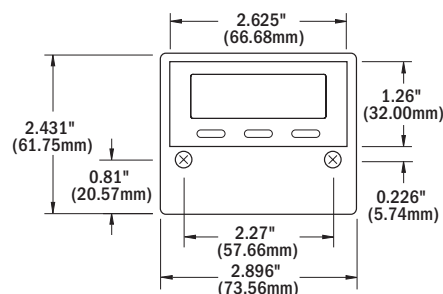
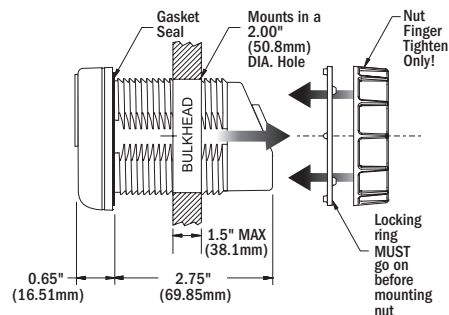


8235
DC Voltmeter

Voltage Measurement:	
Range	0-60V DC
Resolution	0.01V DC
Accuracy (% of Reading)	± 0.5%**

Digital Meter Front Panel Mount

Surface mounting features a finger nut and locking ring for quick and easy installation into a 2.00" (50.8mm) diameter hole.



Digital Voltmeter Panels

Enables voltage monitoring on up to 3 battery banks with one digital meter

- Includes 8235 DC Digital Voltmeter
- 4 digit LED display—Displays voltage from 0-60 Volts DC
- 3 position switch for multiple battery banks



8051 Traditional Metal



1474 360 Panel System

Part N°	Description	Measurement	Sleep Mode	Audio/Visual Alarms	Included Shunt
8248	DC Multimeter with Alarm	Voltage, current	Programmable	High and low voltage	500A PN 8255 (p. 103)
8235	DC Voltmeter	Voltage	Manual	-	-
8251	DC Voltmeter with Alarm	Voltage	Programmable	High and low voltage	-
8236	DC Ammeter	Current	Manual	High and low voltage	500A PN 8255 (p. 103)

* Variable with voltage, display intensity, segments illuminated, and sleep mode

** ± 1 least digit of resolution

AC~

Digital Meters

Allows easy monitoring of key AC functions

- Large, bright LED characters
- Three levels of brightness
- Splash-proof case
- Easy to surface mount in a 2" round hole

Specifications

Display Character Size	9/16"
Input Voltage	80-249V AC*
Maximum Power Consumption	1.00W**
Standby Power	0.60W**



8238

AC Ammeter

Current Measurement

Current Transformer	150A/50mA
Range 1 (Resolution 0.01A)	0.00-9.99A AC (RMS)
Range 2 (Resolution 0.1A)	10.0-150.0A AC (RMS)
Accuracy (% of Reading)	± 1.0%***



8239

AC Frequency Meter

Frequency Measurement

Range	40-90Hz
Resolution	0.1Hz
Accuracy (% of Reading)	± 0.1%***
Calibrated with sine wave input	



8247

AC Multimeter with Alarm

Voltage Measurement

Range	80-249V AC*
Resolution	0.1V AC
Accuracy (% of Reading)	
90-249V AC (RMS)	± 1.0%***
70-90V AC (RMS)	± 5.0%***

Current Measurement

Current Transformer	150A/50mA
Range 1 (Resolution 0.01A)	0.00-9.99A AC (RMS)
Range 2 (Resolution 0.1A)	10.0-150.0A AC (RMS)
Accuracy (% of Reading)	± 1.0%***

Frequency Measurement

Range	40-90Hz
Resolution	0.1Hz
Accuracy (% of Reading)	± 0.1%***
Calibrated with sine wave input	

Power Measurement

Range 1 (Resolution 10W)	0-9990W
Range 2 (Resolution 0.1kW)	10-45kW
Accuracy (% of Reading)	± 5%***

Included Current Transformer 8256 (page 99)



8237

AC Voltmeter

Voltage Measurement:

Range	80-249V AC*
Resolution	0.1V AC
Accuracy (% of Reading)	
90-249V AC (RMS)	± 1.0%***
70-90V AC (RMS)	± 5.0%***

Part N°	Description	Measurement	Sleep Mode	Audio/Visual Alarms
8238	AC Ammeter	Current	Manual	-
8239	AC Frequency Meter	Frequency	Manual	-
8247	AC Multimeter with Alarm	Voltage, current, frequency, power	Programmable	High and low voltage High current
8237	AC Voltmeter	Voltage	Manual	-

* For 120 & 240 Volt AC single phase systems

** Variable with voltage, display intensity, segments illuminated, and sleep mode

*** ± 1 least digit of resolution

AC~ DC==

120/240V AC Digital Meter Mounting Panel

For monitoring 120/240V AC Systems

- Use with AC Digital Multimeter 8247 for monitoring 120/240V AC Systems
- Monitor Line 1 or Line 2 to Neutral and Line 1 to Line 2 voltages
- Includes two additional Current Transformers 8256 (p. 109) and mounting screws



8410 (meter not included)

120/240V AC Digital Meter Blank Panel

Part N°	Width in (mm)	Height in (mm)
8410	5.25 (133.35)	3.75 (95.25)

Analog and Digital Meter Mounting Panels

Provides an easy method of mounting meters

- Panel mounts standard 2-3/4" Analog or Digital Meters (p. 104-107)
- Includes mounting screws and center adjustment hole plug



8013 (meter not included)

Accepts (1) 2-3/4" Analog or Digital Meter



1475 (meter not included)

Accepts (1) 2-3/4" Analog or Digital Meter

Part N°	Width in (mm)	Height in (mm)
1475	4.88 (123.83)	4.75 (120.65)
8013	5.25 (133.35)	3.75 (95.25)

Analog Meters

Micro and Standard size meters with backlighting for low light conditions

- Includes appropriate external DC shunt (p. 109) when required
- Backlit meter face (separate 12 or 24V DC backlight connections)

Specifications

loc (Meter)	Amperage Operating Current	1 mA at full scale
loc (Backlight)	Amperage Operating Current	16 mA @ 12V DC, 20 mA @ 24V DC



8028



8003

Part N°	Function	Connection	Meter Face Size in (mm)
8028	Micro Voltmeter 8-16V DC	2 wire, 3 connections for backlight	2.00 (50.80)
8243	Micro Voltmeter 18-32V DC	2 wire, 3 connections for backlight	2.00 (50.80)
8003	Voltmeter 8-16V DC	2 wire, 3 connections for backlight	2.75 (69.85)
8240	Voltmeter 18-32V DC	2 wire, 3 connections for backlight	2.75 (69.85)



8038



8005

Part N°	Function	Shunt Type	Connection	Meter Face Size in (mm)
8038	Micro Ammeter 0-15A DC	Internal	2 wire inline, 3 connections for backlight	2.00 (50.80)
8041	Micro Ammeter 0-50A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.00 (50.80)
8005	Ammeter 0-25A DC	Internal	2 wire inline, 3 connections for backlight	2.75 (69.85)
8022	Ammeter 0-50A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)
8017	Ammeter 0-100A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)
8018	Ammeter 0-150A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)
8019	Ammeter 0-200A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)



8254



8253

Part N°	Function	Shunt Type	Connection	Meter Face Size in (mm)
8252*	Zero Center Ammeter 50-0-50A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)
8253*	Zero Center Ammeter 100-0-100A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.75 (69.85)
8254*	Zero Center Micro Ammeter 50-0-50A DC	External-50 mV at meter full scale	2 wire from shunt, 3 connections for backlight	2.00 (50.80)

*Meters read both discharge and charge current

Analog Voltmeter Panels

Enables voltage monitoring on up to 3 battery banks with one analog meter

- Includes standard 8003 DC Analog Voltmeter
- Displays voltage from 8-16 Volts DC
- 3 position switch for multiple battery banks



8015

Traditional Metal

Width	5.25 in (133.35 mm)
Height	3.75 in (95.25 mm)



1473

360 Panel System

Width	4.88 in (123.83 mm)
Height	4.75 in (120.65 mm)

Analog Meters

Standard and Micro size meters with backlighting for low light conditions

- Includes appropriate external AC Current Transformer (p. 109), when required
- Backlit meter face (separate 12V or 24V DC backlight connections)

Specifications

loc (Meter)	Amperage Operating Current	50 mA AC at full scale (Ammeter only)
loc (Backlight)	Amperage Operating Current	16 mA @ 12V DC, 20 mA @ 24V DC



8244



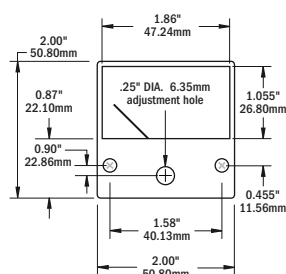
9353



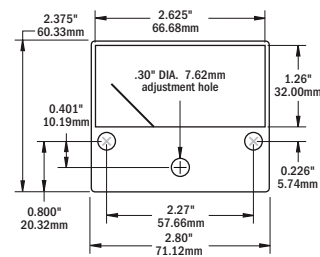
8245



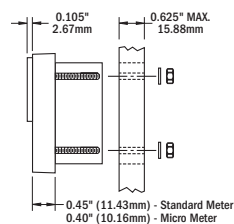
9354



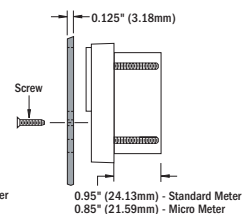
Micro Meter



Standard Meter



Surface Mount



Panel Mount

Part N°	Function	Connection	Meter Face Size in (mm)
8244	Micro Voltmeter 0-150V AC	2 wire to AC hot and neutral, 3 connections for backlight	2.00 (50.80)
8245	Micro Voltmeter 0-250V AC	2 wire to AC hot and neutral, 3 connections for backlight	2.00 (50.80)
9353	Voltmeter 0-150V AC	2 wire to AC hot and neutral, 3 connections for backlight	2.75 (69.85)
9354	Voltmeter 0-250V AC	2 wire to AC hot and neutral, 3 connections for backlight	2.75 (69.85)



8246

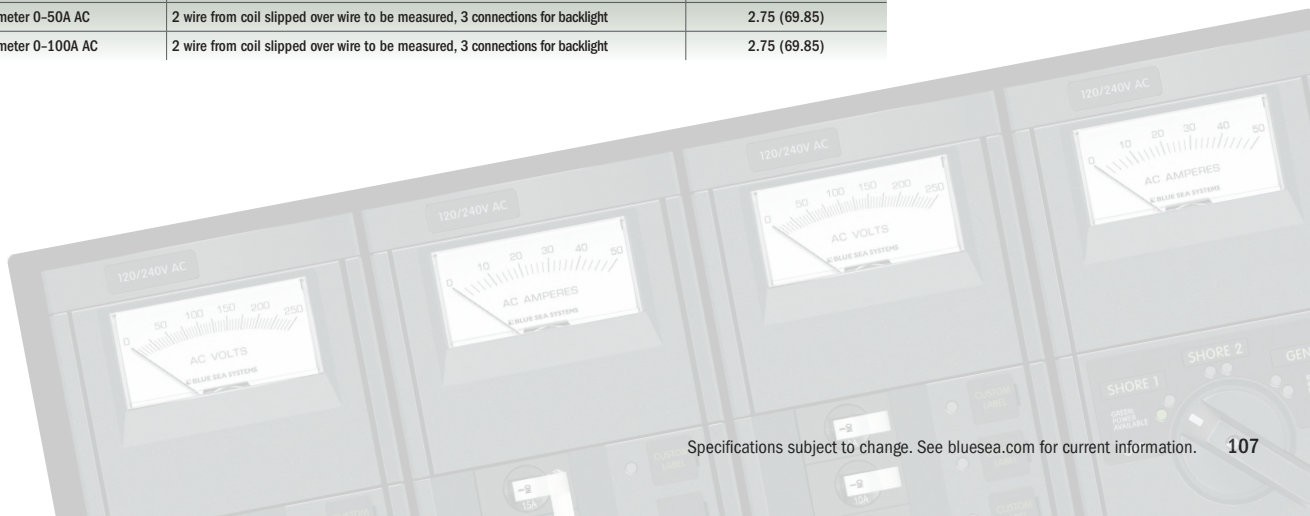


9630



8258

Part N°	Function	Connection	Meter Face Size in (mm)
8246	Micro Ammeter 0-50A AC	2 wire from coil slipped over wire to be measured, 3 connections for backlight	2.00 (50.80)
9630	Ammeter 0-50A AC	2 wire from coil slipped over wire to be measured, 3 connections for backlight	2.75 (69.85)
8258	Ammeter 0-100A AC	2 wire from coil slipped over wire to be measured, 3 connections for backlight	2.75 (69.85)



DC DIN Meters

Easy to read European style analog DC meters

Common Features

- Standard European 72mm design
- White matte dial with black printed scale and knife-edge pointer
- Backlit meter face (separate 12 or 24V DC backlight connections)
- Terminal cover included to prevent accidental short circuit
- Includes appropriate external DC shunt (p. 109)

Specifications

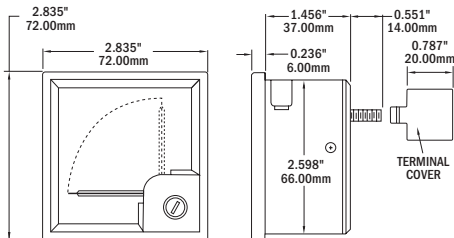
loc (Meter)	Amperage Operating Current
	1 mA at full scale
loc (Backlight)	Amperage Operating Current
	16 mA@12V DC
	20 mA@24V DC



1050



1051



1052



1053



1054



1055

Part N°	Description	Connection	Shunt type
1050	Voltmeter 0-16V	2 wire to DC positive (+) and negative (-) 3 connections for backlight	-
1051	Voltmeter 18-32V	2 wire to DC positive (+) and negative (-) 3 connections for backlight	-
1052	Ammeter 0-25A	2 wire inline no other power required 3 connections for backlight	Internal
1053	Ammeter 0-50A	2 wire from shunt no other power required 3 connections for backlight	External - 50 mV at full scale
1054	Ammeter 0-100A	2 wire from shunt no other power required 3 connections for backlight	External - 50 mV at full scale
1055	Ammeter 0-150A	2 wire from shunt no other power required 3 connections for backlight	External - 50 mV at full scale

AC DIN Meters

Easy to read European style analog AC meters

Common Features

- Standard European 72mm design
- White matte dial with black printed scale and knife-edge pointer
- Backlit meter face with separate 12 or 24V DC backlight connections
- Terminal cover included to prevent accidental short circuit
- Includes appropriate external AC Current Transformer (p. 103), when required

Specifications

loc (Meter)	Amperage Operating Current
	50 mA AC at full scale (Ammeter only)
loc (Backlight)	Amperage Operating Current
	16 mA@12V DC
	20 mA@24V DC



1056



1057



1058

Part N°	Description	Connection
1056	Voltmeter 0-150V	2 wire to AC hot and neutral 3 connections for backlight
1057	Voltmeter 0-250V	2 wire to AC hot and neutral 3 connections for backlight
1058	Ammeter 0-50A	2 wire from coil slipped over wire to be measured 3 connections for backlight

DC

DC Shunts

Use with DC Ammeters (p. 102, 104, 106, 108)

- For continuous operation, it is recommended that shunts not be run at more than two-thirds (66%) the rated current under normal conditions

Specifications

Shunt Type	Resistive
Full Scale	50 mV
Imax Amperage Max. Operating	66% of Rated Current
I300 Amperage Int. Rating (5 min.)	100%—Full scale rating
I3 Amperage Int. Rating (3 sec.)	300%—Full scale rating



9228

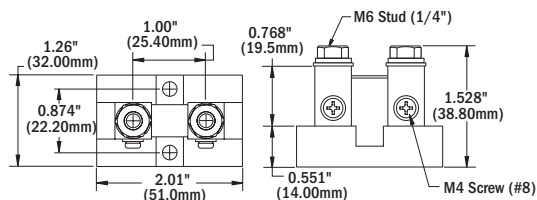


9233

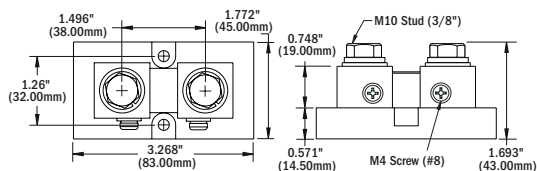


8255

Part N°	For Use With	Ratio
9228	Analog Ammeter	50A DC/50mV DC
9230	Analog Ammeter	100A DC/50mV DC
9233	Analog Ammeter	200A DC/50mV DC
8255	Digital Ammeter, VSM 422	500A DC/50mV DC



9228, 9231

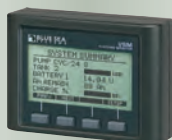


9233, 8255

Related Products



2719 Enclosure
p. 68



VSM 422
p. 102



Digital Ammeters
p. 104



Analog Ammeters
p. 106



DIN Ammeters
p. 108

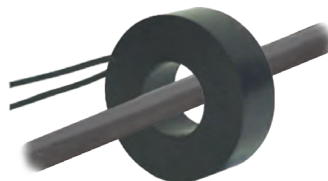
AC ~ DC

AC Current Transformers

Use with AC Ammeters (p. 102, 105, 107, 108)

Specifications

Dimensions	0.60 in (15.24 mm) Inside Diameter
	1.38 in (35.05 mm) Outside Diameter



8073

Part N°	For Use With	Ratio
8073	Analog Ammeter	50A AC/50mA AC
8257	Analog Ammeter	100A AC/50mA AC
8256	Digital Ammeter	150A AC/50mA AC

Mini Clamp Multimeter

Compact and feature-rich AC/DC Multimeter simplifies diagnosis of marine electrical problems

- Clamp allows measurement of AC and DC current in wires without disturbing the circuits or contacting live terminals
- Compact size allows comfortable one hand operation, portability, and access to confined areas
- Auto range simplifies operation by automatically selecting the range that best fits the data
- Additional functions include: Data Hold, Overload Display, and Auto Power-Off
- True RMS AC measurement is accurate for normal sine wave and modified sine wave inverter output

Specifications

AC Amperes (Current)	0.01–400 Amps
AC Voltage	0.001–600 Volts
DC Amperes (Current)	0.01–400 Amps
DC Voltage	0.001–600 Volts
Resistance/Continuity Alarm	0.1–40MΩ
Measurement Resolution	4300 counts

Regulatory

CE Marked
CAT III, 600 Volts



8110
Includes test leads and carrying case






Part N°	Description
8110	Mini Clamp Multimeter



Meter Comparison

DC Voltmeters







DC Ammeters

Style	DIN		Analog Standard		Analog Micro		Digital with or without Alarm		DIN			
												
Part N°	1050	1051	8003	8240	8028	8243	8235	8251*	1052	1053	1054	1055
Measurement	8-16V DC	18-32V DC	8-16V DC	18-32V DC	8-16V DC	18-32V DC	0-60V DC	0-60V DC	0-25A DC	0-50A DC	0-100A DC	0-150A DC
Width x Height in (mm)	2.835" (72.00)	2.835" (72.00)	2.80" (71.12)	2.375" (60.33)	2.0" (50.80)	2.0" (50.80)	2.896" (73.56)	2.431" (61.75)	2.835" (72.00)			
Depth in (mm)	2.42" (61.52)		1.96" (49.66)		1.79" (45.47)		3.375" (85.73)		2.42" (61.52)			





* with alarm

DC Ammeters

DC Multimeter

Style	Analog Standard					Analog Micro		Zero Center Standard		Zero Center Micro		Digital	Digital with Alarm
													
Part N°	8005	8022	8017	8018	8019	8038	8041	8252	8253	8254		8236	8248
Measurement	0-25A	0-50A	0-100A	0-150A	0-200A	0-15A DC	0-50A DC	50-0-50A DC	100-0-100A DC	50-0-50A DC		±500A DC	0-60V, ±500A DC
Width x Height in (mm)	2.80" (71.12)	2.375" (60.33)				2.0" (50.80)	2.0" (50.80)	2.80" (71.12)	2.375" (60.33)	2.0" (50.80)		2.896" (73.56)	2.896" (73.56)
Depth in (mm)		1.96" (49.66)				1.79" (45.47)		1.96" (49.66)	1.79" (45.47)	1.79" (45.47)		3.375" (85.73)	3.375" (85.73)






AC Voltmeters

Style	DIN		Analog Standard		Analog Micro		Digital	
								
Part N°	1056	1057	9353	9354	8244	8245	8246	8237
Measurement	0-150V AC	0-250V AC	0-150V AC	0-250V AC	0-150V AC	0-250V AC	0-50V AC	80-249V AC
Width x Height in (mm)	2.835" (72.00)	2.835" (72.00)	2.80" (71.12)	2.375" (60.33)	2.0" (50.80)	2.0" (50.80)		2.896" (73.56)
Depth in (mm)	2.42" (61.52)		1.96" (49.66)		1.79" (45.47)			3.375" (85.73)



AC Ammeters

AC Frequency

AC Multimeter

Style	DIN	Analog Standard		Digital	Digital		Digital with Alarm
							
Part N°	1058	9630	8258	8238	8239		8247
Measurement	0-50A AC	0-50A AC	0-100A AC	0-150A AC	40-90Hz		80-249V, 0-150A, 40-90Hz, 0-9990W
Width x Height in (mm)	2.835" (72.00)	2.80" (71.12)	2.375" (60.33)	2.896" (73.56)	2.896" (73.56)		2.896" (73.56)
Depth in (mm)	2.42" (61.52)	1.96" (49.66)		3.375" (85.73)	3.375" (85.73)		3.375" (85.73)

AC ~ DC Multimeters

Style	Vessel Systems Monitor VSM 422		Mini Clamp Multimeter	
				
Part N°	1800 - 1801		8110	
Measurement	0-150A AC, 0-150V AC, 0-500A DC, 8.5-33.0V DC, Bilge, Tank, State of Charge		0.01-400A AC, 0.001-600V AC, 0.01-400A DC, 0.001-600V DC	
Width x Height in (mm)	4.00" (102.87)		2.79" (71.00)	
Depth in (mm)	3.00" (76.20)		7.48" (190.00)	
Depth in (mm)	2.00" (50.87)		-	

2 Inch Round Gauges

Provides monitoring of key functions required for boat operation

Gauges are offered for use in 360 Panels and are not available for retail purchase.

- Watertight, fog resistant, and anti-scratch glass face
- Edge-lit
- Will fit panels up to 0.8" thickness

Specifications

Vm _{xo}	Voltage Max. Operating	See table
Tm _{xo}	Temperature Max. Operating	158°F (70°C)
Tm _{no}	Temperature Min. Operating	-4°F (-20°C)
I _{oc}	Amperage Operating Current (with edge light)	180mA
I _{oc}	Amperage Operating Current (without edge light)	<100mA
Gauge diameter		2.00" (50.80 mm)
Mounting hole diameter		2.06" (52.40 mm)
Back clamp nuts torque		5-7 in-lb

Regulatory

CE Marked



1030B
Actual size



1022B



1023B



1024B



1026B (gauge is not edge-lit)



1027B



1028B



1029B

Part N°	Function	Vm _{xo} Voltage Max. Operating	Depth in (mm)
1020B	Fuel Level E-1/2-F	16V DC	1.75 (44.45)
1021B	Potable Water Level E-1/2-F	16V DC	1.75 (44.45)
1022B	Engine Temp 100-250°F	16V DC	1.75 (44.45)
1023B	Oil Pressure 0-80 PSI/Bar	16V DC	1.75 (44.45)
1024B	Water Pressure 0-30 PSI/kPa	16V DC	2.10 (53.54)
1025B	Voltmeter 10-16 Volts	16V DC	1.75 (44.45)
1026B	Hour Meter—10,000 hrs	32V DC	2.40 (60.96)
1027B	Battery Condition Indicator	16V DC	3.00 (76.20)
1028B	DC Ammeter 60-0-60 Amps	16V DC	1.75 (44.45)
1029B	Clock—Quartz Analog	16V DC	2.70 (68.58)
1030B	Tank Level	16V DC	1.75 (44.45)

Gauge Panel

For mounting 2 Inch Round Gauges

Small Format Label Sets - 8214 and 8217 (p. 117)

Part N°	Width in (mm)	Height in (mm)	Depth in (mm)
1510	4.88 (123.83)	4.75 (120.65)	0.50 (12.70)



1510 (Gauge not included)



Sabre Yachts installs Blue Sea Systems Custom 360 Panels aboard their boats, including the 42 Fly Bridge Sedan.



Yamaha Boats install Blue Sea Systems 360 Panels with custom labels in Japanese on their NYTRO sportboat.



ACCESSORIES

Blue Sea Systems offers panel accessories for all four panel styles as well as custom panel labels in any language.

Traditional Metal and **360 Panel System** accessories include innovative modular back covers for AC 360 Panels. ABYC standards mandate isolation of AC and DC components on combination panels. Stackable, screw-down covers protect AC components from coming into contact with tools, personnel, and DC wiring.

Blue Sea Systems has labels with standard and custom text for all panel formats. Over 500 standard labels and fully custom labels can ship rapidly from the in-house printing facility. All labels are made using a two-layer, back-printed polycarbonate material that resists scratches. Waterproof adhesive ensures a long lasting bond to the panel surface. All labels can be ordered online at blueseasystems.com.

Visit www.blueseasystems.com for a complete list of panel accessories and replacement parts

SECTION INDEX

12 Volt Socket-Plug System	114
Dual USB Chargers	114
Socket and Dual USB Charger Panels	114
Blank and 120V AC Dual Outlet Panels	114
Traditional Metal Panel Insulating Back Cover	115
360 Panel Insulating Back Covers	115
360 Panel 12 to 24 Volt Conversion Kit	115
Toggle Guard	116
AC A-Series Circuit Breaker Lockout Slide	116
AC C-Series Circuit Breaker Lockout Slide	116
LED Indicator Lights	116
360 Panel Label Backlight System	117
Label Backlight System	117
Labels	117-120

12 Volt Socket-Plug System

Corrosion resistant materials to ensure solid contact and low voltage drop



- Designed to withstand the rigors of wet environments and constant vibration
- Large contact surfaces for good electrical connection
- Twist lock system—plug locks securely into socket
- Internal strain relief and cord seal
- Nickel plated copper alloy used for all current carrying components
- Plug has a sealing ring to keep out spray and make it seat firmly in the socket
- Socket features a watertight cap, easy installation, and interlocks with plug
- 1012 and 1013 heavy duty 18 gauge wire
- 1012 cord reaches up to 6 feet

Specifications

Vn	Voltage Nominal	12V DC
Imxo	Amperage Max. Operating	15A DC (socket)
Imxo	Amperage Max. Operating	10A DC (plug)

Part N°	Description
1010	Plug
1011	Socket
1012	Single Plug with Single Socket Extension
1013	Single Plug with Dual Socket Extensions
1014	Mounting Bracket for Socket (1011)*
1015	Plug and Socket Set - Includes 1010 and 1011

* Socket not included

Dual USB Chargers

Two USB ports with protective cap



Protective cap with tether keeps dust and spray from shortening the life of the charger. Made with corrosion resistant materials which ensure a solid contact and low voltage drop.

- Compatible with popular mobile devices including Apple® products
- Protective dust cap
- Easy to use

Dual USB Charger Socket - 1016

Easy to install in existing 12V DC socket hole providing convenient access for charging mobile devices

Dual USB Charger Plug - 1017

Easy to use in common 12V DC sockets found in boats, cars, and recreational vehicles

Specifications

USB	2.0
Input Voltage	12V DC
Output Voltage	5V DC +/-5%
Max. Output Current	2.1A DC (total)

Dual USB Charger Socket:

Cut Out Dimensions	1-1/8" Dia. (29 mm)
--------------------	---------------------

Regulatory

FCC Part 15: Subpart B Compliant



Part N°	Description
1016	Dual USB Charger Socket
1017	Dual USB Charger Plug

Socket and Dual USB Charger Panels

Integrates DC Sockets and USB Charger with 360 Panel System

Component Reference

- 12V DC Sockets and Dual USB Chargers



1472

1478

Part N°	Description	Width in (mm)	Height in (mm)	Depth in (mm)
1472	12V DC Sockets	4.88 (123.83)	4.75 (120.65)	1.50 (38.10)
1478	12V DC Socket 12V DC Dual USB Charger	4.88 (123.83)	4.75 (120.65)	1.50 (38.10)

Blank and 120V AC Dual Outlet Panels

Provides a 360 Panel System platform for mounting equipment, switching, and monitoring functions

- 1518 is suitable for mounting accessories and for pad printing



1518



1479

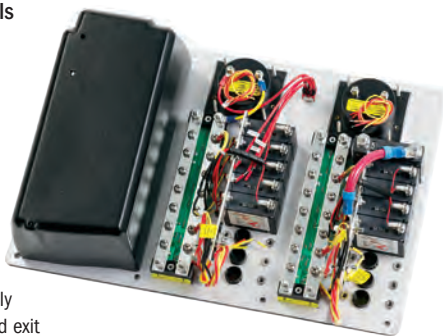
Part N°	Description	Width in (mm)	Height in (mm)	Depth in (mm)	Weight lb (kg)
1518	Blank	4.88 (123.83)	4.75 (120.65)	0.50 (12.70)	0.55 (0.25)
1479	120V AC Dual Outlets	4.88 (123.83)	4.75 (120.65)	1.00 (25.40)	1.98 (0.90)
1479100	1479 without outlet	4.88 (123.83)	4.75 (120.65)	0.50 (12.70)	0.55 (0.25)

AC Insulating Back Covers

Provides electrical insulation for many of Blue Sea Systems traditional metal circuit breaker panels

4029 installed on 8084 AC/DC Circuit Breaker Panel (p. 94)

- Isolation of panel AC components and circuits from DC system elements
- Provides mechanical protection for panel backs protruding into lockers
- Lightweight material is easily drilled for wire entrance and exit
- Meet ABYC safety requirements for panels with combined AC and DC loads
- 4029 and 4031—Used only for Blue Sea Systems toggle circuit breaker panels



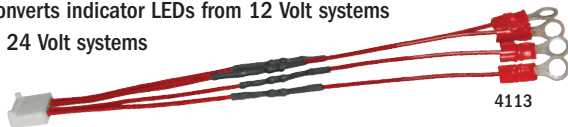
Specifications

Material UL-94-V0 Thermoplastic

Part N°	Description
4026	Cover for 5-1/4" x 3-3/4"
4027	Cover for 5-1/4" x 7-1/2"
4028	Cover for 10-1/2" x 7-1/2"
4029	Cover for 1 Column x 8 Position + Meter
4031	Cover for 2 Column x 10 Position + Meter

360 Panel 12 to 24 Volt Conversion Kit

Converts indicator LEDs from 12 Volt systems to 24 Volt systems



4113

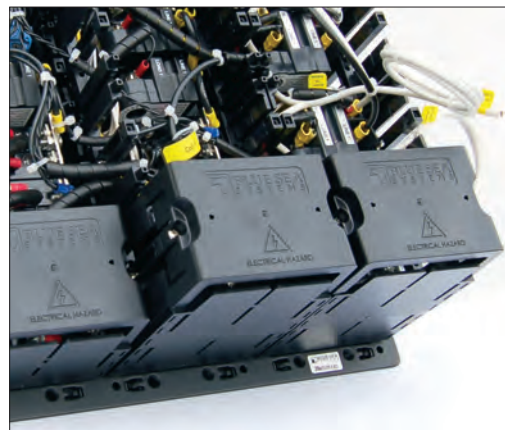
- Requires one kit per 12 Volt DC circuit breaker module
- Includes wire harness and panel identification label

360 Panel Insulating Back Covers

Provides electrical insulation for exposed panel backs



1331



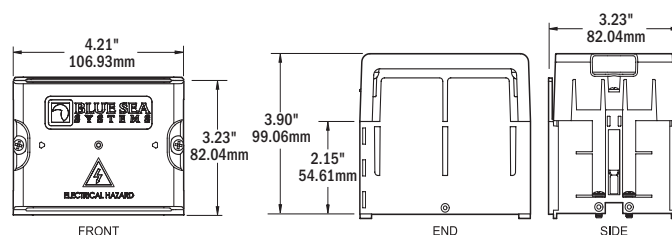
Features

- Isolation of panel AC components and circuits from DC system elements
- Meets ABYC safety requirements for panels with combined AC and DC loads
- Modular design consists of interlocking pieces—SIDES, TOP, and ENDS
- Interlocking pieces can be stacked to accommodate large components
- Cover breakouts allow wire access in any direction
- UL 94-V0 rated material resists high heat

Specifications

Material UL 94-V0 Polycarbonate
Hardware 2 qty. #6 Phillips-drive sheet metal screws,
4 qty. #8-32 x 0.5" Phillips-drive machine screws with lock washers

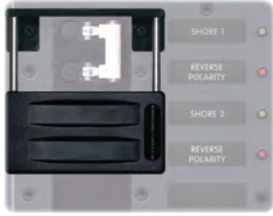
Part N°	Description
1331	Cover for 1 module



Intercontinental Truck Body provides emergency response, production, and support vehicles which rely on Blue Sea Systems product for their onboard electrical system.

AC C-Series Toggle Circuit Breaker Lockout Slide

Enables safe management of multiple AC sources which use double or triple pole circuit breakers



4130



4131

- Allows only 1 of a pair of double pole or triple pole AC circuit breakers to be activated at a time
- Guarantees that AC power from 2 sources (shore power, genset, or inverter) will not be mixed
- Fits all double or triple pole C-Series Toggle Circuit Breakers (p. 52)
- Uses circuit breaker mounting screw holes
- Requires no special panel modification
- Includes mounting screws

Specifications

Mounting #6 Pan Head Screw
AC Sources 2

Part N°	Poles	AC Sources
4130	2	2
4131	3	2

AC A-Series Circuit Breaker Lockout Slide

Enables safe management of multiple AC sources which use double pole circuit breakers



4125



4126

- Allows only 1 double pole AC circuit breaker to be activated at a time
- Guarantees that AC power from 2 or more sources (shore power, genset, or inverter) will not be mixed
- Fits all double pole A-Series Toggle Circuit Breakers (p. 50)
- Uses circuit breaker mounting screw holes
- Includes mounting screws

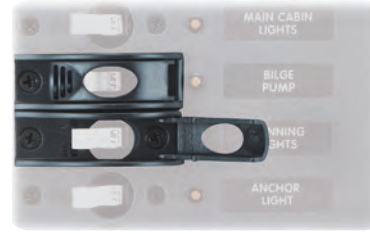
Specifications

Mounting #6 Flat Head Screw

Part N°	Poles	AC Sources
4125	2	2
4126	2	3

Toggle Guard

Protects toggle circuit breakers from accidental switching



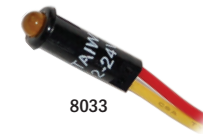
4100 (2 shown)

- Fits A-Series single pole toggle circuit breakers (p. 50)
- Fits all panel switches (p. 62)
- Can be used on any brand of circuit breaker panel (not including 360 Panel System) using standard A-Series Toggle Circuit Breakers
- Uses circuit breaker mounting screw holes
- Includes mounting screws

Part N°	Description	Mounting
4100	Toggle Guard	#6 Flat Head Screw

LED Indicator Lights

Directly replaces LEDs used in Blue Sea Systems Traditional Metal circuit breaker panels



8033



8171



8172

- Simple push-in installation mounts in any thickness material
- Useful as general indicator and alarm lights

Specifications

Mounting Hole Size 11/64 in (4.36 mm)
Wire Gauge 26 AWG

Part N°	Color	Nominal Voltage	Current (mA)	Power Consumption (mW)	Circuit
8033	Amber	12/24V DC	1.5 @ 12V, 3.1 @ 24V	19 @ 12V, 75 @ 24V	Resistor
8171	Red	12/24V DC	1.5 @ 12V, 3.2 @ 24V	19 @ 12V, 77 @ 24V	Resistor
8172	Green	12/24V DC	1.5 @ 12V, 3.0 @ 24V	19 @ 12V, 73 @ 24V	Resistor
8169	Amber	120V AC	2.3 @ 120V	278 @ 120V	Resistor
8066	Red	120V AC	2.7 @ 120V	326 @ 120V	Resistor
8034	Green	120V AC	2.3 @ 120V	278 @ 120V	Resistor
8167	Amber	250V AC	1.1 @ 250V	276 @ 250V	Resistor + Diode
8166	Red	250V AC	1.1 @ 250V	276 @ 250V	Resistor + Diode
8134	Green	250V AC	1.1 @ 250V	276 @ 250V	Resistor + Diode



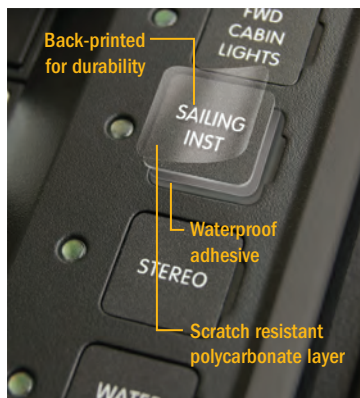
SAFE Boats use the Blue Sea Systems 360 Panel System with custom labels on the Apostle 410.

Label Material

All labels are made using a durable polycarbonate material, waterproof adhesive, and are back printed for scratch resistance. To order standard labels online or download a custom label order form, go to blueseas.com/labels.



Scan to
order labels

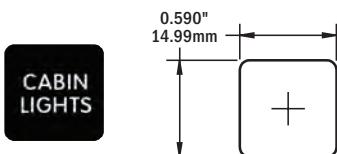


Square Format Labels

Used with 360 Panel System (p. 80), Battery Management (p. 20), ST CLB Circuit Breaker Blocks (p. 46) and WeatherDeck™ Panels (p. 77)

- Reinforced, weatherproof material
- For a list of labels included see (p. 120)
- Available for purchase in sets or individually (p. 118-119)

Part N°	Color	Description	Quantity
4215	Black	DC Labels	30 Labels
4218	Black	DC Labels	30 Labels
4216	Black	DC Labels	60 Labels
4217	Black	DC Labels	120 Labels



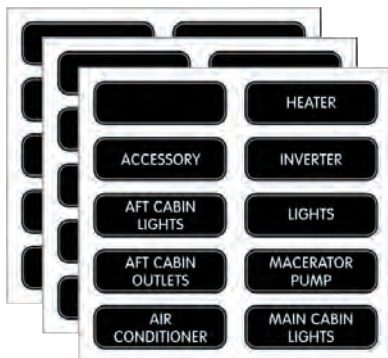
4215

Large Format Labels

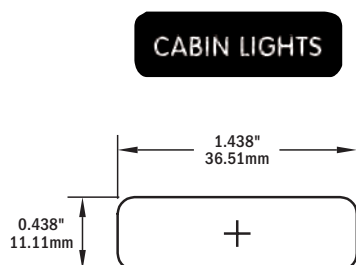
Used on Traditional Metal Panels, ST Glass Fuse Block and selected Contura Waterproof Panels

- Reinforced, weatherproof material
- Used on Contura Water Resistant Fuse Panels 8053, 8054 (p. 79)
- Available for purchase in sets or individually (p. 118-119)
- For a list of labels included see (p. 120)

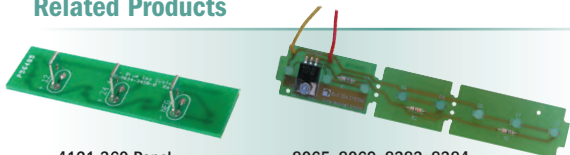
Part N°	Color	Description	Quantity
8031	Black	AC Panel Basic	30 Labels
8067	Black	AC Panel Extended	120 Labels
8030	Black	DC Panel Basic	30 Labels
8039	Black	DC Panel Extended	120 Labels



8031



Related Products



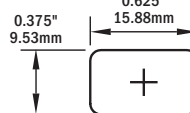
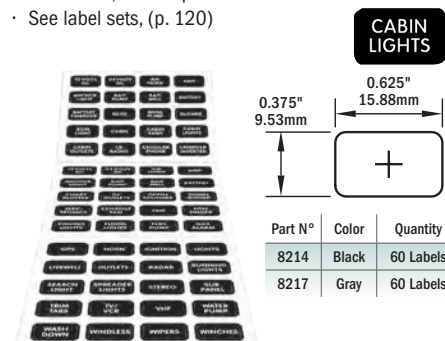
4121 360 Panel
Label Backlight
System

8065, 8069, 8383, 8384
Label Backlight System

Small Format Labels

Used with most Blue Sea Systems Contura Switch Water Resistant Panels (p. 79) or ST Blade Fuse Block (p. 39)

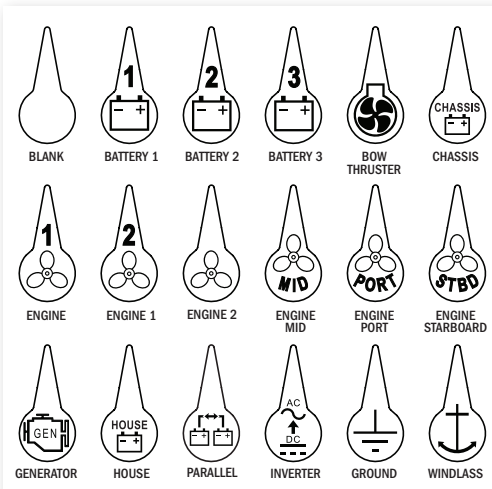
- Reinforced, weatherproof material
- See label sets, (p. 120)



Part N°	Color	Quantity
8214	Black	60 Labels
8217	Gray	60 Labels

ICON Circuit Identification Label Kit

Used on M-Series, E-Series and HD-Series battery switches (p. 14-20)



7902
Color White
Quantity 18 labels

Custom Labels



Can't find the right label? Custom labels can be ordered online in any language. Blue Sea Systems offers labels with standard and custom text for all panel formats. Custom labels ship rapidly due to an in-house printing facility, and over 500 standard labels are ready to order.

Individual Square and Large Format Panel Labels

To order individual labels, please indicate the Part No. (6520 or 8063) and the Label No.

Example:
Square Format
6520-0044

BAIT
PUMP

Large Format
8063-0356

REFRIGERATOR

Label N°	Label Text
0001	LABEL #1
0002	LABEL #2
0003	(BLANK)
0005	12 VOLT DC
0004	12 VOLT DC OUTLETS
0499	12 VOLT OUTLETS INSIDE
0500	12 VOLT OUTLETS OUTSIDE
0502	120VOLT / 60 HZ SHORE POWER
0007	120 VOLT AC / 60 HZ
0006	120 VOLT AC OUTLETS
0516	120/240V 60 HZ
0517	120/240V 60 HZ SHORE POWER
0526	230 VOLTS AC 50 HZ
0010	24 VOLT DC
0009	24 VOLT DC OUTLET
0008	240 VOLTS AC
0460	240 VOLTS AC / 60 HZ
0515	250 VOLT 50HZ SHORE POWER
0468	250 VOLTS AC / 50 HZ
0462	AC BUS 1
0011	AC COMPRESSOR
0012	AC FAN
0013	AC MAIN
0014	AC PANEL
0015	AC POWER
0016	AC REFRIGERATOR
0017	AC SUB PANEL
0532	ACCENT LIGHT
0018	ACCESSORY
0019	ADF
0020	AERATOR
0021	AFT CABIN
0022	AFT CABIN LIGHTS
0023	AFT CABIN OUTLETS
0536	AFT CABIN SUMP
0530	AFT DISCHARGE PUMP
0024	AFT HEAD
0025	AIR COMPRESSOR
0026	AIR CONDITIONER
0027	AIR CONDITIONER 2
0028	AIR CONDITIONER 3
0029	AIR CONDITIONER 4
0030	AIR CONDITIONER PUMP
0031	AIR HORN
0573	AIS
0544	ALARM
0032	ALARM SYSTEM
0461	ALTERNATOR
0033	ALTERNATOR DISCONNECT
0034	AMPLIFIER
0035	ANCHOR LIGHT
0036	ANCHOR LIGHT MAIN
0037	ANCHOR LIGHT MIZZEN
0038	ANCHOR WASH DOWN
0039	APPLIANCES
0040	ARCH LIGHTS
0041	AUDIO/VIDEO SYSTEM
0525	AUTO FILL
0042	AUTO/MAN
0555	AUTO/MAN
0524	AUTOMATIC CHARGING RELAY
0043	AUTOPILOT
0044	BAIT PUMP
0045	BAITWELL
0046	BALLAST CONTROLS
0047	BALLAST PUMP
0048	BAR
0481	BATHROOM
0049	BATTERY
0473	BATTERY 1
0474	BATTERY 2
0050	BATTERY CHARGER
0051	BATTERY CHARGER 2
0052	BATTERY COMPARTMENT
0053	BATTERY PARALLEL
0560	BATTERY SWITCH
0054	BEACON
0480	BEDROOM

Label N°	Label Text
0485	BEDROOM SLIDEOUT
0055	BILGE
0056	BILGE ALARM
0057	BILGE ALARM 2
0058	BILGE ALARM 3
0059	BILGE ALARM 4
0060	BILGE LIGHTS
0061	BILGE PUMP
0062	BILGE PUMP 2
0063	BILGE PUMP 3
0064	BILGE PUMP 4
0453	BILGE PUMP ON-OFF-AUTO
0559	BLANK WHITE WRITABLE
0065	BLOWER
0066	BOAT DAVIT
0067	BOOM LIGHT
0068	BOW LIGHT
0069	BOW THRUSTER
0070	BRIDGE
0071	BRIDGE INSTRUMENTS
0072	BRIDGE LIGHTS
0073	BRIDGE OUTLETS
0074	CABIN
0075	CABIN 2
0501	CABIN 2 FAN
0076	CABIN 2 LIGHTS
0077	CABIN 2 OUTLETS
0078	CABIN 3
0079	CABIN 3 LIGHTS
0080	CABIN 3 OUTLETS
0081	CABIN 4
0082	CABIN 4 LIGHTS
0083	CABIN 4 OUTLETS
0084	CABIN FAN
0085	CABIN HEATER
0086	CABIN LIGHTS
0087	CABIN OUTLETS
0088	CABLEMASTER
0089	CASSETTE PLAYER
0090	CB RADIO
0091	CCTV
0092	CD PLAYER
0093	CELLULAR PHONE
0537	CENTER LIVEWELL
0094	CHARGER/INVERTER
0095	CHART LIGHT
0096	CHART PLOTTER
0097	CHOKE
0098	CIRCULATOR PUMP
0508	CLOCK
0099	CLOSET LIGHT
0575	CO DETECTOR
0100	COCKPIT LIGHTS
0101	COCKPIT REFRIG
0102	COLOR SOUNDER
0103	COMM ELECTRONICS
0104	COMPARTMENT HEATER
0105	COMPARTMENT LIGHT
0106	COMPASS LIGHT
0107	COMPUTER
0514	COMPUTER DISPLAY
0108	CONDENSER PUMP
0109	CONSOLE LIGHT
0110	CONVERTER
0111	COOKING GRILL
0112	COOKTOP
0113	COOLING PUMP
0114	COURTESY LIGHTS
0115	CREW LIGHTS
0116	CREW QUARTERS
0117	DAVIT
0118	DC LIGHTS
0119	DC MAIN
0120	DC OUTLETS
0121	DC REFRIGERATOR
0122	DC SUB PANEL
0123	DECK
0124	DECK LIGHTS

Label N°	Label Text
0125	DECK LIGHTS AFT
0126	DECK LIGHTS FWD
0127	DECK LIGHTS PORT
0128	DECK LIGHTS STBD
0129	DEFROSTER
0130	DEPTH RECORDER
0131	DEPTH SOUNDER
0132	DEPTH/SPEED
0133	DESALINATOR
0134	DIMMER
0135	DINING AREA LIGHTS
0136	DINING AREA OUTLETS
0137	DISCHARGE PUMP
0567	DISCHARGE PUMP 2
0568	DISCHARGE PUMP 3
0138	DISHWASHER
0139	DISPOSAL
0140	DIVE COMPRESSOR
0141	DOCKING LIGHT PORT
0142	DOCKING LIGHT STBD
0143	DOCKING LIGHTS
0144	DOWN RIGGER
0145	DRYER
0146	DUMP VALVES
0566	ECU
0580	ELCI
0147	ELECTRIC HATCH
0469	ELECTRONIC CONTROL UNIT
0148	ELECTRONICS
0149	EMERGENCY BACKUP SYS
0150	EMERGENCY LIGHTS
0151	EMERGENCY PUMPS
0545	ENGINE
0581	ENGINE 1
0582	ENGINE 2
0547	ENG 1/ENG 2
0158	ENGINE ALARM
0159	ENGINE BLOCK HEATER
0160	ENGINE CONTROL PORT
0161	ENGINE CONTROL STBD
0162	ENGINE CONTROLS
0163	ENGINE DRIVEN REFRIG
0164	ENGINE EXHAUST FAN
0165	ENGINE HATCH
0166	ENGINE HEATER PORT
0167	ENGINE HEATER STBD
0168	ENGINE INSTRUMENTS
0169	ENGINE OIL PAN PUMP
0152	ENGINE ROOM BILGE ALARM
0153	ENGINE ROOM BLOWER
0154	ENGINE ROOM HEATER
0155	ENGINE ROOM LIGHTS
0156	ENGINE ROOM OUTLETS
0157	ENGINE ROOM PANEL MAIN
0170	ENGINE SHUTDOWN
0171	ENGINE TEMP
0546	ENGINES
0172	ENTERTAINMENT CENTER
0173	ENTRANCE DOOR
0174	ENTRY STEP
0175	EXHAUST FAN
0176	EXHAUST TEMP
0177	EXTERIOR
0178	EXTERIOR LIGHTS
0179	FAN
0180	FAN 2
0181	FAN 3
0182	FAN 4
0183	FAX
0184	FILLING PUMP
0185	FIRE ALARM
0186	FIRE EXT
0187	FIRE HORN
0459	FISH FINDER
0538	FISHBOX DRAIN
0188	FISHBOX ICEMAKER
0520	FISHBOX PUMP
0521	FISHBOX REFRIGERATOR

Label N°	Label Text
0189	FISHING LIGHT
0487	FISHWELL PUMP
0488	FISHWELL PUMP 2
0576	FLOAT SWITCH
0190	FLOOD LIGHTS
0191	FLOSCAN
0192	FLYBRIDGE
0193	FLYBRIDGE ELECTRONICS
0194	FLYBRIDGE LIGHTS
0195	FLYBRIDGE OUTLETS
0196	FOG LIGHTS
0197	FOREDECK LIGHT
0539	FORWARD BILGE
0198	FREEZER
0199	FRESH WATER
0200	FRESH WATER PUMP
0201	FRESH WATER PUMP 2
0202	FRESH WATER PUMP 3
0203	FRESH WATER PUMP 4
0204	FRESH WATER WASH DOWN
0482	FRONT SLIDEOUT
0561	FUEL GAUGE
0205	FUEL PRIMER PUMP
0206	FUEL PUMP
0207	FUEL PUMP 2
0208	FUEL PUMP 3
0209	FUEL PUMP 4
0210	FUEL TANK HEATER
0211	FUEL TRANSFER
0507	FUME DETECTOR
0212	FURLER JIB
0213	FURLER MAINSAIL
0214	FURLER SPINNAKER
0215	FURNACE
0216	FWD CABIN
0217	FWD CABIN LIGHTS
0218	FWD CABIN OUTLETS
0529	FWD DISCHARGE PUMP
0528	FWD HEAD
0219	GALLEY
0220	GALLEY APPLIANCES
0221	GALLEY DRAIN
0222	GALLEY FAN
0223	GALLEY LIGHTS
0224	GALLEY OUTLETS
0490	GALVANIC ISOLATOR
0225	GARBAGE DISPOSAL
0226	GAS ALARM
0227	GENERAL PURPOSE
0523	GENERATOR
0228	GENERATOR 1
0229	GENERATOR 2
0454	GENERATOR OFF ON START
0230	GENERATOR ROOM BLOWER
0466	GENERATOR RUNNING
0455	GENERATOR STOP
0578	GFCI
0231	GFI OUTLET
0232	GPS
0233	GPS/LORAN
0234	GPS/PLOTTER
0510	GUN LOCKS
0235	GYRO COMPASS
0236	HAILER
0237	HALLWAY LIGHTS
0238	HALON FIRE SYSTEM
0239	HAM RADIO
0240	HEAD
0241	HEAD 2
0242	HEAD 2 FAN
0243	HEAD 2 OUTLETS
0244	HEAD 3
0245	HEAD 3 FAN
0246	HEAD 3 OUTLETS
0247	HEAD 4
0248	HEAD 4 FAN
0249	HEAD 4 OUTLETS
0250	HEAD FAN

Individual Square and Large Format Panel Labels

To order individual labels, please indicate the Part No. (6520 or 8063) and the Label No.

Example:
Square Format
6520-0044

BAIT
PUMP

Large Format
8063-0356

REFRIGERATOR

Label N°	Label Text	Label N°	Label Text	Label N°	Label Text	Label N°	Label Text
0251	HEAD LIGHTS	0311	MAIN CABIN	0367	SALOON LIGHTS	0429	VACUUM
0252	HEAD LIGHTS 2	0312	MAIN CABIN LIGHTS	0368	SALOON OUTLETS	0430	VACUUM PUMP
0253	HEAD LIGHTS 3	0313	MAIN CABIN OUTLETS	0369	SALT WATER PUMP	0431	VCR
0254	HEAD LIGHTS 4	0314	MAIN SAIL FURLING	0370	SAT/COM	0432	VHF
0255	HEAD OUTLETS	0315	MAP LIGHT	0371	SAT/NAV	0511	VHF 1
0256	HEADLIGHTS	0572	MARINE SANITATION DEVICE	0372	SATELLITE DISH	0512	VHF 2
0257	HEATER	0316	MAST LIGHTS	0373	SCRUBBER	0433	VIDEO PLOTTER
0519	HEATER & AIR CONDITIONER	0317	MASTHEAD LIGHT	0374	SEARCHLIGHT	0434	VIDEO SYSTEM
0258	HEATER 2	0551	MEMORY	0375	SEARCHLIGHT HAND HELD	0543	WASHDOWN
0259	HEATER 3	0574	MERCATHODE	0376	SEARCHLIGHT REMOTE	0513	WASHDOWN PUMP
0260	HEATER 4	0318	MICROWAVE	0377	SEAWATER TEMP	0435	WASHER
0261	HELM ELECTRONICS	0319	MINI DISC PLAYER	0378	SEAWATER WASH DOWN	0436	WASHER/DRYER
0262	HELM GAUGES	0320	MIZZEN FLOOD	0379	SECURITY SYSTEM	0437	WATER ALARM
0263	HELM INSTRUMENTS	0456	NAV LIGHT ANCHOR OFF NAV	0380	SHIP	0562	WATER GAUGE
0264	HIGH WATER ALARM	0321	NAV STATION ELECTRONICS	0381	SHORE	0438	WATER HEATER
0265	HOLDING TANK	0322	NAV STATION GAUGES	0463	SHORE 1	0439	WATER LEVEL
0266	HOLDING TANK ALARM	0323	NAV STATION INSTRUMENTS	0464	SHORE 2	0440	WATER MAKER
0267	HOLDING TANK PUMP	0324	NAV STATION LIGHTS	0382	SHORE CORD REEL	0441	WATER PRESSURE
0268	HOOD FAN	0325	NAVIGATION ELECTRONICS	0383	SHORE POWER	0442	WATER PUMP
0269	HOOD LIGHT	0326	NAVIGATION INSTRUMENTS	0384	SHORE POWER CORD	0443	WEATHER FAX
0270	HORN	0327	NAVIGATION LIGHTS	0385	SHOWER SUMP PUMP	0444	WEATHER INSTRUMENT
0475	HOT TUB	0565	NETWORK	0386	SINK DRAIN	0571	WIFI
0271	HOT WATER PUMP	0328	NIGHT LIGHTS	0486	SLIDEOUT	0553	WINCH
0548	HOUSE	0329	OFF	0387	SOLAR PANEL	0445	WINCHES
0549	HOUSE/ENG	0331	OIL CHANGE PUMP	0388	SONAR	0477	WIND GENERATOR
0550	HOUSE/GEN	0563	OIL GAUGE	0542	SONAR/ACC	0446	WIND INSTRUMENTS
0272	HYDRAULIC ALARM	0332	ON	0389	SPARE	0522	WIND SHIELD VENT
0273	HYDRAULIC SYSTEM	0330	ON-OFF	0390	SPEED/LOG	0447	WINDEX LIGHT
0274	HYDRAULIC TANK ALARM	0333	OUTLETS	0391	SPREADER LIGHTS	0448	WINDLASS
0570	HYDRAULIC VALVE	0334	OUTLETS 2	0392	SPREADER LT MIZZEN	0449	WINDSHIELD WASHER
0275	ICE MAKER	0335	OUTLETS 3	0393	SSB	0472	WIPER CENTER
0276	IGNITION	0336	OUTLETS 4	0394	STABILIZER	0450	WIPER PORT
0277	IGNITION PORT	0505	OUTLETS AFT	0558	STAIR LIGHT	0451	WIPER STBD
0278	IGNITION STBD	0337	OUTLETS DECK	0395	STARBOARD	0452	WIPERS
0279	INSTRUMENT LIGHTS	0506	OUTLETS ENGINE ROOM	0396	START	0557	WIRELESS
0280	INSTRUMENTS	0338	OUTLETS EXTERIOR	0398	START PORT		
0281	INTERCOM	0503	OUTLETS FORWARD	0399	START STBD		
0282	INTERCOM HAILER	0339	OUTLETS INTERIOR	0397	START-STOP		
0283	INTERCOM/TELEPHONE	0504	OUTLETS PILOT HOUSE	0541	STBD FISHBOX		
0284	INTERIOR LIGHTS	0458	PANEL LIGHTS	0533	STBD LIVEWELL		
0556	INTERNET	0496	PILOT HOUSE FAN	0400	STBD THRUSTER		
0285	INVERTER	0340	PORT	0401	STEAMING LIGHT		
0467	INVERTER 2	0540	PORT FISHBOX	0569	STEERING VALVE		
0476	INVERTER AC BUS	0534	PORT LIVEWELL	0402	STEP LIGHT		
0471	INVERTER AC SUPPLY	0341	PORT THRUSTER	0403	STEREO		
0470	INVERTER DC SUPPLY	0552	PORT/STBD ENG	0577	STEREO MEMORY		
0286	INVERTER OUTLET	0342	POWER	0404	STERN LIGHT		
0287	ISOLATION TRANSFORMER	0343	POWER WASHER	0509	STERN THRUSTER		
0479	KITCHEN	0457	PRE-HEAT	0405	STOP		
0484	KITCHEN SLIDEOUT	0344	PRIMARY WINCHES	0406	STOVE		
0288	KNOTMETER	0345	PRINTER	0407	STOVE/MICROWAVE		
0289	LAZARETTE LIGHTS	0346	PUMP	0408	STROBE LIGHT		
0290	LECTRASAN	0497	PUMP BLACK WATER	0409	SUB PANEL		
0291	LIGHTER	0498	PUMP GRAY WATER	0410	SUMP PUMP		
0292	LIGHTS	0554	PUMPOUT	0411	SUMP PUMP 2		
0293	LIGHTS 2	0347	RACK LIGHTS	0412	SYNCHRO		
0294	LIGHTS 3	0348	RACK OUTLETS	0564	TANK GAUGE		
0295	LIGHTS 4	0349	RADAR	0413	TAPE DECK		
0296	LIGHTS AFT	0350	RADAR ARCH LIGHTS	0414	TELEPHONE SYSTEM		
0494	LIGHTS AFT CABIN	0351	RADIO	0415	TEST		
0297	LIGHTS FWD	0352	RANGE	0416	TOWING LIGHTS		
0493	LIGHTS MASTER CABIN	0579	RCBO	0417	TRACK LIGHTS		
0495	LIGHTS PANTRY	0353	RDF	0465	TRANSFER		
0492	LIGHTS PILOTHOUSE	0483	REAR SLIDEOUT	0418	TRANSFER PUMP		
0298	LIGHTS PORT	0354	RECEIVER	0419	TRANSFORMER		
0491	LIGHTS SETTEE	0355	RECEPTACLE	0518	TRANSFORMER SECONDARY		
0299	LIGHTS STBD	0356	REFRIGERATOR	0420	TRASH COMPACTOR		
0300	LIVEWELL	0357	REFRIGERATOR PUMP	0478	TRAVEL LOCKS		
0301	LIVEWELL INPUT	0358	REFRIGERATOR/FREEZER	0421	TRICOLOR LIGHT		
0302	LIVEWELL OUTPUT	0359	REGULATOR	0422	TRIM TABS		
0303	LOCKER LIGHTS	0360	REVERSE POLARITY	0527	TROLLING MOTOR		
0304	LOG	0361	ROD LOCKER	0423	TV		
0305	LORAN	0489	RUDDER ANGLE INDICATOR	0424	TV ANTENNA		
0306	LPG CONTROL	0362	RUNNING LIGHTS	0425	TV/STEREO		
0307	LUBE OIL PUMP	0363	SAILING CONTROLS	0426	TV/VCR		
0308	MACERATOR PUMP	0364	SAILING INSTRUMENTS	0535	UNDERWATER LIGHT		
0309	MAIN	0365	SALOON	0427	UPS SYSTEM		
0310	MAIN BREAKER	0366	SALOON HEATER	0428	UTILITY		

Labels Included in Sets

4215

ACCESSORY
AERATOR
ANCHOR LIGHT
AUTOPILOT
BAIT PUMP
BILGE PUMP
BLOWER
CABIN LIGHTS
DEPTH SOUNDER
ELECTRONICS
GPS
HORN
INSTRUMENTS
KNOTMETER
NAV LIGHTS
RADAR
REFRIGERATOR
RUNNING LIGHTS
SEARCH LIGHT
SPARE
SPREADER LIGHTS
STEAMING LIGHT
STEREO
TRIM TABS
VHF
WASH DOWN
WATER PRESSURE
WATER PUMP
WINDLASS
WIPERS

4206 and 8031

(BLANK)
ACCESSORY
AFT CABIN LIGHTS
AFT CABIN OUTLETS
AIR CONDITIONER
AIR CONDITIONER 2
APPLIANCES
BATTERY CHARGER
CABIN OUTLETS
COMPUTER
ENTERTAINMENT CENTER
FWD CABIN LIGHTS
FWD CABIN OUTLETS
GALLEY
GALLEY OUTLETS
HEATER
INVERTER
LIGHTS
MACERATOR PUMP
MAIN CABIN LIGHTS
MAIN CABIN OUTLETS
MICROWAVE
OUTLETS
REFRIGERATOR
SPARE
STOVE
TV/STEREO
VCR
WASHER/DRYER
WATER HEATER

4217

(BLANK)
12 VOLT DC
12 VOLT DC OUTLETS
24 VOLT DC
AIR HORN
ANCHOR LIGHT MAIN
ANCHOR LIGHT MIZZEN
ANCHOR WASH DOWN
APPLIANCES
ARCH LIGHTS
AUTO/MAN
BAITWELL
BATTERY
BATTERY PARALLEL
BILGE ALARM
BILGE PUMP 2
BILGE PUMP ON-OFF-AUTO
BOW LIGHT
BOW THRUSTER
BRIDGE INSTRUMENTS
BRIDGE LIGHTS
CABIN
CB RADIO
CD PLAYER
CHART LIGHT
CHART PLOTTER
COCKPIT LIGHTS
COMPASS LIGHT
COURTESY LIGHTS
DAVIT
DC OUTLETS
DC SUB PANEL
DECK LIGHTS
DEFROSTER
DEPTH/SPEED
DIMMER
DISCHARGE PUMP
DOCKING LIGHT PORT
DOCKING LIGHT STBD
DOCKING LIGHTS
DOWN RIGGER
ELECTRIC HATCH
ENGINE HATCH
ENGINE INSTRUMENTS
ENGINE ROOM BLOWER
ENGINE ROOM LIGHTS
ENGINE SHUTDOWN
ENTRY STEP
FAN
FAN 2
FIRE ALARM
FIRE EXT
FISH FINDER
FISHING LIGHT
FISHWELL PUMP
FLOOD LIGHTS
FLYBRIDGE
FLYBRIDGE ELECTRONICS
FLYBRIDGE LIGHTS
FOG LIGHTS

FOREDECK LIGHT
FRESH WATER PUMP
FRESH WATER WASH DOWN
FUEL PUMP
FUEL TRANSFER
FURLER JIB
FURLER MAINSAIL
GALLEY
GAS ALARM
GPS/PLOTTER
HAILER
HAM RADIO
HEAD
HEATER
IGNITION
INSTRUMENT LIGHTS
INTERCOM HAILER
LAZARETTE LIGHTS
LIGHTER
LIGHTS
LIVWELL
LOCKER LIGHTS
LPG CONTROL
MAIN
MAST LIGHTS
MASTHEAD LIGHT
MIZZEN FLOOD
NAVIGATION ELECTRONICS
NAVIGATION INSTRUMENTS
NAV LIGHT ANCHOR OFF NAV
ON-OFF
OUTLETS
PUMP
PUMPOUT
RADIO
ROD LOCKER
RUDDER ANGLE INDICATOR
SAILING CONTROLS
SAILING INSTRUMENTS
SALT WATER PUMP
SEAWATER WASH DOWN
SHOWER SUMP PUMP
SOLAR PANEL
SSB
START-STOP
STERN LIGHT
STROBE LIGHT
SUMP PUMP
TRANSFER
TRICOLOR LIGHT
TROLLING MOTOR
WASHDOWN PUMP
WASHDOWN
WINCHES
WIND GENERATOR
WIND INSTRUMENTS
WINDSHIELD WASHER
WIPER CENTER
WIPER PORT
WIPER STBD

8214 and 8217

(BLANK)
12 VOLT DC
24 VOLT DC
ACCESSORY
AERATOR
ANCHOR LIGHT
AUTO PILOT
BAIT PUMP
BAITWELL
BATTERY
BATTERY CHARGER
BILGE
BILGE PUMP
BLOWER
BOW LIGHT
CABIN
CABIN LIGHTS
CB RADIO
CELLULAR PHONE
CHARGER INVERTER
CHART PLOTTER
DECK LIGHTS
DEPTH SOUNDER
DOWN RIGGER
ELECTRONICS
FAN
FISH FINDER
FISHING LIGHT
FLOOD LIGHTS
FUEL PUMP
GAS ALARM
GPS
HORN
IGNITION
INSTR. LIGHTS
INVERTER
KNOT METER
LIGHTS
LIVWELL
NAV LIGHTS
OUTLETS
RADIO
RADAR
REFRIGERATION
RUNNING LIGHTS
SEARCH LIGHT
SPARE
SPREADER LIGHTS
STEAMING LIGHT
STEREO
STROBE LIGHT
TRICOLOR LIGHT
TRIM TABS
VHF
WASH DOWN
WATER PRESSURE
WATER PUMP
WINCHES
WINDLASS
WIPERS

4218

12 VOLT DC
24 VOLT DC
ALARM
BILGE PUMP
BILGE PUMP 2
BILGE PUMP 3
BILGE PUMP 4
BOW THRUSTER
CLOCK
DC MAIN
DC SUB PANEL
ELECTRONICS
ENGINE
ENGINES
ENG 1/ENG 2
GENERATOR
HOUSE
HOUSE/ENG
HOUSE/GEN
INVERTER
LIGHTS
MEMORY
PORT/STBD ENG
RADAR
RADIO
SOLAR PANEL
VHF
WINCH
WINDLASS
Blank (Write On)

4216

(BLANK)
12 VOLT DC
12 VOLT DC OUTLETS
ANCHOR WASH DOWN
BAITWELL
BATTERY
BATTERY PARALLEL
BILGE
BILGE PUMP 2
BILGE PUMP ON-OFF-AUTO
BOW LIGHT
CABIN
CB RADIO
CELLULAR PHONE
CHART LIGHT
CHART PLOTTER
COCKPIT LIGHTS
COMPASS LIGHT
COURTESY LIGHTS
DAVIT
DC OUTLETS
DC SUB PANEL
DECK LIGHTS
DOCKING LIGHTS
DOWN RIGGER
ELECTRIC HATCH
ENGINE ROOM BLOWER
ENGINE ROOM LIGHTS
FAN
FISH FINDER
FISHING LIGHT
FISHWELL PUMP
FLOOD LIGHTS

4207 and 8039

(BLANK)
12 VOLT DC
12 VOLT DC OUTLETS
AFT CABIN
AFT HEAD
ALARM SYSTEM
ANCHOR WASH DOWN
BAIT PUMP
BILGE ALARM
BILGE PUMP 2
BRIDGE INSTRUMENTS
CABIN 2 LIGHTS
CABIN 3 LIGHTS
CABIN 4 LIGHTS
CABIN FANS
CABIN LIGHTS
CB RADIO
CELLULAR PHONE
CHART LIGHT
CHART PLOTTER
COCKPIT LIGHTS
COLOR SOUNDER
COMM ELECTRONICS
DC LIGHTS
DC MAIN
DC OUTLETS
DC REFRIGERATOR
DC SUB PANEL
DECK LIGHTS
DECK LIGHTS AFT
DECK LIGHTS FWD
DEPTH RECORDER
DEPTH/SPEED
DESALINATOR
DIMMER
DINING AREA LIGHTS
DOCKING LIGHTS
EMERGENCY LIGHTS
ENGINE ROOM BILGE ALARM
ENGINE ROOM LIGHTS
ENGINE ROOM PANEL MAIN
ENGINE ALARM
EXTERIOR LIGHTS
FAN 2
FIRE ALARM
FISHING LIGHT
FLOOD LIGHTS
FLYBRIDGE ELECTRONICS
FLYBRIDGE LIGHTS
FRESH WATER PUMP
FRESH WATER WASH DOWN
GALLEY LIGHTS
GPS/PLOTTER
HAILER
HAM RADIO
HEAD
HEAD LIGHTS
HEAD LIGHTS 2
HEATER 2
HELM ELECTRONICS

HELM GAUGES
HELM INSTRUMENTS
HIGH WATER ALARM
HOLDING TANK
HOLDING TANK ALARM
HOLDING TANK PUMP
INSTRUMENT LIGHTS
INSTRUMENTS
INTERCOM
INTERIOR LIGHTS
LIGHTS 2
LIVWELL
LOG
LORAN
MAIN CABIN
MAP LIGHT
MAST LIGHTS
NAV STATION ELECTRONICS
NAV STATION GAUGES
NAV STATION INSTRUMENTS
NAV STATION LIGHTS
NAVIGATION ELECTRONICS
NAVIGATION INSTRUMENTS
NAVIGATION LIGHTS
RACK LIGHTS
RADIO
SALOON
SALOON LIGHTS
SAT/COM
SAT/NAV
SATELLITE DISH
SEARCHLIGHT
SEAWATER TEMP
SEAWATER WASH DOWN
SECURITY SYSTEM
SHOWER SUMP PUMP
SONAR
SPEED/LOG
SSB
SUB PANEL
SUMP PUMP
TELEPHONE SYSTEM
TRACK LIGHTS
TRANSFER PUMP
TRIM TABS
TV
TV/VCR
UTILITY
VIDEO PLOTTER
WATER ALARM
WATER MAKER
WATER PUMP
WEATHER FAX
WEATHER INSTRUMENT
WINCHES
WIND INSTRUMENTS
WINDEX LIGHT
WIPER PORT
WIPER STBD
WIPERS

4205 and 8030

ACCESSORY
ANCHOR LIGHT
AUTOPILOT
BILGE PUMP
BLOWER
COMPASS LIGHT
DEPTH SOUNDER
ELECTRONICS
ENGINE INSTRUMENTS
FAN
FOREDECK LIGHT
FWD CABIN LIGHTS
GPS
HORN
KNOTMETER
LIGHTS
MACERATOR PUMP
MAIN CABIN LIGHTS
RADAR
REFRIGERATOR
RUNNING LIGHTS
SAILING INSTRUMENTS
SPARE
SPREADER LIGHTS
STEAMING LIGHT
STEREO
STROBE LIGHT
TRICOLOR LIGHT
VHF
WATER PRESSURE

(BLANK)
FRESH WATER PUMP
FUEL PUMP
GALLEY OUTLETS
GAS ALARM
GPS/PLOTTER
HEAD
IGNITION
INSTRUMENT LIGHTS
LIGHTS
LIVWELL
MACERATOR PUMP
NAV LIGHT ANCHOR-OFF-NAV
OUTLETS
PUMPOUT
RADIO
SEAWATER WASH DOWN
SHOWER SUMP PUMP
SSB
STERN LIGHT
STROBE LIGHT
TRICOLOR LIGHT
TROLLING MOTOR
WASHDOWN
WATER MAKER
WINCHES
WIPER PORT
WIPER STBD

4208 and 8067

(BLANK)
120 VOLT AC OUTLETS
120 VOLTS AC / 60 HZ
AC COMPRESSOR
AC FAN
AC MAIN
AC PANEL
AC POWER
AC REFRIGERATOR
AC SUB PANEL
AFT CABIN
AFT HEAD
AIR CONDITIONER 3
AIR CONDITIONER 4
ALARM SYSTEM
AMPLIFIER
AUDIO/VIDEO SYSTEM
BATTERY CHARGER 2
BRIDGE LIGHTS
BRIDGE OUTLETS
CABIN
CABIN 2
CABIN 2 LIGHTS
CABIN 2 OUTLETS
CABIN 3
CABIN 3 LIGHTS
CABIN 3 OUTLETS
CABIN 4
CABIN 4 LIGHTS
CABIN 4 OUTLETS
CABIN HEATER
CABIN LIGHTS
CHARGER/INVERTER
COCKPIT LIGHTS
COCKPIT REFRIGERATOR
COMPARTMENT LIGHT
COOKTOP
DECK LIGHTS
DIMMER
DINING AREA LIGHTS
DINING AREA OUTLETS
DISHWASHER
DISPOSAL
DRYER
EMERGENCY LIGHTS
ENGINE ROOM LIGHTS
ENGINE ROOM OUTLETS
EXHAUST FAN
EXTERIOR LIGHTS
FAN
FAN 2
FAN 3
FAN 4
FLOOD LIGHTS
FREEZER
FURNACE
GALLEY APPLIANCES
GALLEY LIGHTS
GARBAGE DISPOSAL
GENERATOR 1

GFI OUTLET
HALLWAY LIGHTS
HEAD 2 OUTLETS
HEAD 3 OUTLETS
HEAD 4 OUTLETS
HEAD LIGHTS
HEAD LIGHTS 2
HEAD LIGHTS 3
HEAD LIGHTS 4
HEAD OUTLETS
HEADLIGHTS
HEATER 2
HEATER 3
HEATER 4
HOOD FAN
ICEMAKER
INTERIOR LIGHTS
INVERTER OUTLET
ISOLATION TRANSFORMER
LAZARETTE LIGHTS
LECTRASAN
LIGHTS 2
LIGHTS 3
LIGHTS 4
LIGHTS AFT
LIGHTS FWD
MAIN
MAIN BREAKER
MAIN CABIN
NAV STATION LIGHTS
OUTLETS 2
OUTLETS 3
OUTLETS 4
OUTLETS DECK
OUTLETS EXTERIOR
OUTLETS INTERIOR
RACK OUTLETS
RANGE
REFRIGERATOR/FREEZER
REVERSE POLARITY
SALOON
SALOON HEATER
SALOON LIGHTS
SALOON OUTLETS
SATELLITE DISH
SHIP
SHORE
SHORE POWER
STEREO
STOVE/MICROWAVE
SUB PANEL
TELEPHONE SYSTEM
TRACK LIGHTS
TRASH COMPACTOR
TV
UPS SYSTEM
VACUUM
VIDEO SYSTEM
WASHER
WATER MAKER

Label set included with Source Selection Panels

(not sold separately)

TRANSFER
INVERTER
SHORE
SHORE 1
SHORE 2
SALOON OUTLETS
AC BUS 1
AC BUS 2
GEN
GEN 1
GEN 2

Protect Your Boat

With the Correct Size Wire and Fuse



Scan to download
the app or go to
www.circuitwizard.blueseas.com

STEP 1 Choose the Correct Wire

- A** Locate the **CURRENT FLOW IN AMPS** of your circuit along the top of the **WIRE SELECTION CHART**.
- B** Select the **CIRCUIT TYPE**.
- **Non-critical circuits with 10% allowable voltage drop include:** general lighting, windlasses, bait pumps, general appliances
 - **Critical circuits with 3% allowable voltage drop include:** panel main feeders, bilge blowers, electronics, navigation lights
- C** Find the **CIRCUIT LENGTH** along the left side of the **WIRE SELECTION CHART**.
- **The circuit length** is the length of the negative wire added to the length of the positive wire.
 - **Calculations are based on 105°C wire.** For wire rated at 90°C or lower, or for wire that passes through an engine room, the first row of the chart, in gray, does not apply.
- D** Intersect the **CURRENT FLOW IN AMPS** with **CIRCUIT LENGTH** to identify the correct wire size.

Example: A windlass rated 80A is 25 ft. from the battery. The circuit length is the total length of the positive and negative wire added together, which in this example is 50 ft. The circuit type is 'non-critical', and the correct wire size is 4 AWG.

WIRE SELECTION CHART

Calculations are based on 105°C wire.
For more detailed calculations, consult the Circuit Wizard at www.circuitwizard.blueseas.com

CIRCUIT TYPE		CURRENT FLOW IN AMPS																
Non-Critical 10% VOLTAGE DROP	Critical 3% VOLTAGE DROP	5A	10A	15A	20A	25A	30A	40A	50A	60A	70A	80A	90A	100A	120A	150A	200A	
0 to 20 ft	0 to 6 ft		16 AWG	14 AWG	14 AWG	12 AWG	10 AWG	8 AWG	6 AWG	6 AWG	6 AWG	4 AWG	4 AWG	4 AWG	2 AWG	1 AWG	2½ AWG	
30 ft	10 ft	16 AWG	14 AWG	12 AWG	12 AWG	10 AWG	8 AWG	6 AWG		4 AWG	4 AWG	4 AWG	2 AWG	2 AWG	2 AWG	1 AWG		
50 ft	15 ft		12 AWG	10 AWG	10 AWG	8 AWG	6 AWG	6 AWG		4 AWG	4 AWG		2 AWG	2 AWG	1 AWG	0 AWG		
65 ft	20 ft	14 AWG		10 AWG	8 AWG		6 AWG	4 AWG	4 AWG	2 AWG	2 AWG	2 AWG	2 AWG	2 AWG	1 AWG	0 AWG		
80 ft	25 ft		10 AWG	8 AWG	6 AWG	6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	1 AWG	1 AWG	1 AWG	1 AWG	0 AWG	2½ AWG	3½ AWG	
100 ft	30 ft	12 AWG		8 AWG	6 AWG		4 AWG	2 AWG	2 AWG	1 AWG	1 AWG	1 AWG	0 AWG	0 AWG	2½ AWG	3½ AWG	4½ AWG	
130 ft	40 ft		8 AWG			4 AWG	2 AWG	1 AWG	1 AWG	0 AWG	0 AWG	0 AWG	2½ AWG	2½ AWG	3½ AWG	4½ AWG		
165 ft	50 ft	10 AWG		6 AWG	4 AWG	2 AWG	2 AWG	1 AWG	1 AWG	0 AWG	2½ AWG	3½ AWG	3½ AWG	3½ AWG	4½ AWG			
200 ft	60 ft		6 AWG				2 AWG	1 AWG	0 AWG	2½ AWG	3½ AWG		4½ AWG	4½ AWG				
	70 ft			4 AWG		2 AWG	1 AWG	0 AWG	2½ AWG	3½ AWG		4½ AWG						
	80 ft	8 AWG			2 AWG		1 AWG	0 AWG	2½ AWG	3½ AWG								
	90 ft				2 AWG	1 AWG		2½ AWG	3½ AWG									
	100 ft		4 AWG	2 AWG		1 AWG	0 AWG			4½ AWG								
	110 ft							3½ AWG										
	120 ft				1 AWG	0 AWG	2½ AWG	3½ AWG	4½ AWG									
	130 ft		2 AWG															

Standard and Metric Wire Comparison Table

Available Wire Size
AWG

Available Wire Size
Metric

16

1.5

14

2.5

12

4

10

6

8

10

6

16

4

25

2

35

1

50

2½

70

3½

95

4½

120

KEY

AWG WIRE SIZE

CLOSEST EQUIVALENT IN METRIC

AWG WIRE SIZE CHART

Circles indicate actual diameter of wire (not including insulation)



STEP 2 Choose the Correct Fuse and Fuse Amperage

A Choose a fuse from the list on the top of the **FUSE SELECTION CHART** by following along the line of the **AWG WIRE SIZE** determined from Step 1. Appropriate fuses will have a gray bar that intersects the line.

B The appropriate fuse amperage will be found in one of the four gray bars below the selected fuse type.

Single Wire, Outside Engine Room = First column dark gray bar

Single Wire, Inside Engine Room = First column light gray bar

Bundled Wire, Outside Engine Room = Second column dark gray bar

Bundled Wire, Inside Engine Room = Second column light gray bar

Calculations are based on 105°C wire. For wire rated at 80°C or lower, use the fuse amperage for the next smaller wire size.

Example: For a 4 AWG single 105°C rated wire outside an engine room, the fuse amperage is 150A

Note: Possible fuse amperages for a circuit can fall between a range of maximum and minimum fuse amperages. The procedure above calculates the maximum fuse amperage which reduces nuisance blows but may offer less protection than a lower amperage fuse. The minimum fuse amperage is calculated by multiplying the current flow in amps by 125%. If the product instructions specify a fuse amperage, use that value if it is under the maximum amperage found in the above procedure.

If the specified fuse amperage is over the maximum suggested, move down the column and choose the wire size that intersects with the specified fuse amperage.

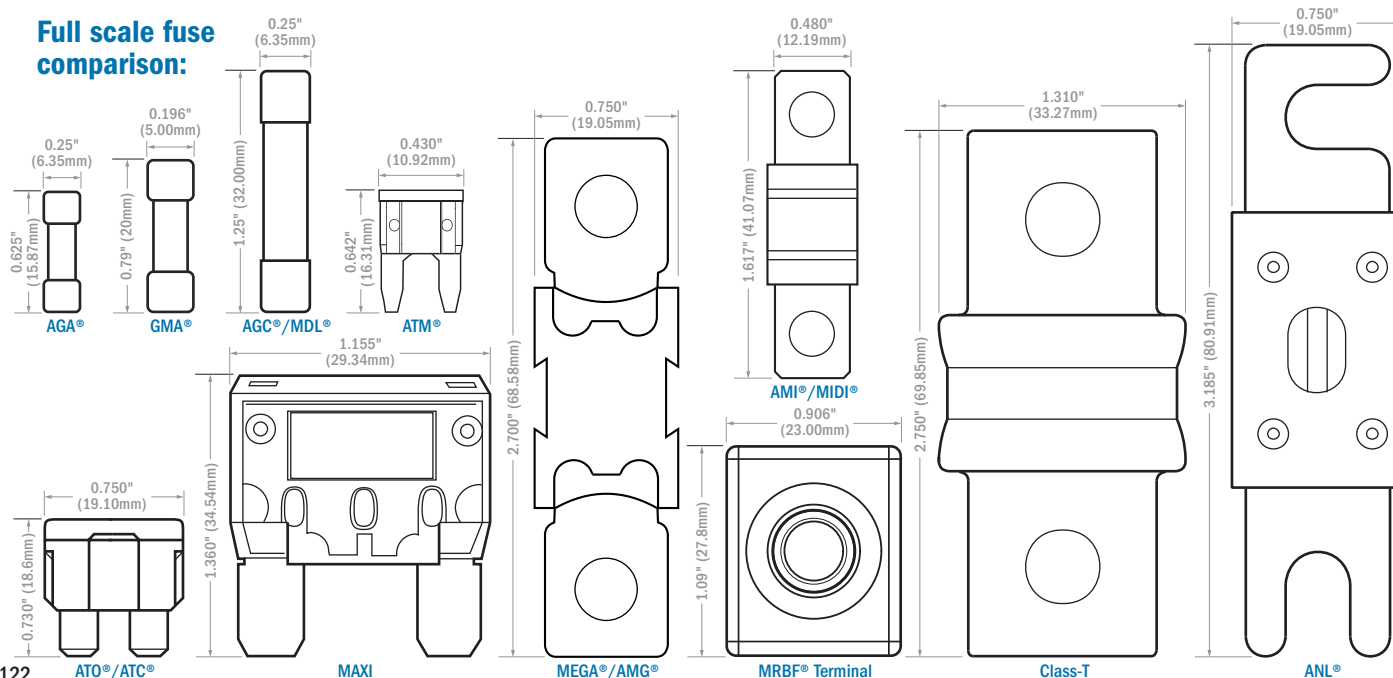
FUSE SELECTION CHART

Calculations are based on 105°C wire.

For lower temperature rated wire, consult the Circuit Wizard at www.circuitwizard.blueseas.com

LEGEND	AGC® MDL®		ATO® or ATC® Fuse		MAXI™ Fuse		AMI® or MIDI® Fuse		MRBF TERMINAL Fuse		MEGA® or AMG® Fuse		CLASS T Fuse		ANL® Fuse	
	.25A to 30A		1A to 30A		30A to 80A		30A to 200A		30A to 300A		100A to 300A		225A to 400A		35A to 400A	
AWG WIRE SIZE	SINGLE WIRE		SINGLE WIRE		SINGLE WIRE		SINGLE WIRE		SINGLE WIRE		SINGLE WIRE		SINGLE WIRE		SINGLE WIRE	
	BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES		BUNDLED WIRES	
16 AWG	25A	20A	20A	15A	25A	20A	20A	15A								
14 AWG	30A	25A	20A	15A	30A	25A	20A	15A	30A	30A						
12 AWG		30A	25A		30A	25A			50A	40A	30A					
10 AWG					50A	40A	30A		50A	40A	30A					
8 AWG					60A	50A	40A		60A	50A	40A					
6 AWG					80A	70A	60A		80A	70A	60A					
4 AWG					80A	70A	125A	100A	80A	70A	125A	100A				
2 AWG							150A	125A	150A	125A	150A	125A				
1 AWG							200A	175A	200A	175A	200A	175A				
0 AWG							200A	175A	250A	200A	175A	250A				
2/0 AWG							200A	175A	300A	250A	200A	175A	300A	250A		
3/0 AWG									250A	225A	200A	175A	300A	250A	350A	300A
4/0 AWG									300A	250A	200A	175A	300A	250A	400A	350A

Full scale fuse comparison:



STEP 3 Choose the Fuse Holder

A Using the same colored headings as in the **FUSE SELECTION CHART** (step 2), follow the columns down to find fuse holders or fuse blocks that meet your specific requirements.

B Consider environmental factors:

- Ignition protection is required where flammable vapors may accumulate.

Example: Engine room and propane locker

Consult American Boat and Yacht Council (ABYC) E-11.5.3 for Ignition Protection

● Ignition protection

- Ingress protection protects fuses from spray, washdown, and humidity.
IP66-protected against powerful water jets

● Ingress protection

C Decide between an in-line fuse holder or a fuse block:

- In-line fuse holders are compact and hold a single low-amperage fuse.
- Fuse blocks mount to a solid surface and may hold a single fuse or multiple fuses.

FUSE HOLDER SELECTION CHART

MDL® AGC®	ATO® or ATC® Fuse	MAXI™ Fuse	AMI® or MIDI® Fuse	MRBF Terminal Fuse	MEGA® or AMG® Fuse	CLASS T Fuse	ANL® Fuse
Crimpable In-Line Fuse Holder 5060	ATO® or ATC® In-Line Fuse Holders 5064 5065	MAXI™ Fuse Block 5006	AMI® or MIDI® Safety Fuse Block 7720	Terminal MRBF Fuse Blocks 5191 2151	MEGA® or AMG® Fuse Block 5001 MEGA® or AMG® Safety Fuse Block 7721	CLASS T Fuse Block 5502	ANL® Fuse Blocks 5005 5503
Waterproof In-Line Fuse Holders 5061 5062	ST Blade Fuse Blocks 5025 5035 5026 5028 5029		SafetyHub Fuse Blocks 7725 7748 7727				
Heavy Duty In-Line Fuse Holder 5063	SafetyHub Fuse Blocks 7725 7748 7727						
ST Glass Fuse Blocks 5015 5018							

LEGEND

- Ingress protection
- Ignition protection

Although this process uses information from ABYC E-11 to recommend wire size and circuit protection, it may not cover all of the unique characteristics that may exist on a boat. If you have specific questions about your installation please consult an ABYC certified installer.

Protect Your Boat With the Correct Size Wire, Fuse, and Fuse Holder

STEP 1 Choose the Correct Wire

STEP 2 Choose the Correct Fuse and Fuse Amperage

STEP 3 Choose a Fuse Holder

20008 You Can Do it, Protect Your Boat with the Correct Size Wire, Fuse, and Fuse Holder - 20 guides per pack

20010 20" x 17" Deskmat

See page 128 for other You Can Do It Guides and marketing materials.

Battery Management Wiring Schematics for Typical Applications

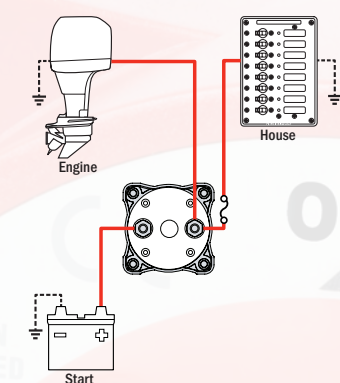
Batteries are at the heart of the electrical system found on any boat or vehicle. Proper battery management, including switching and charging, is essential for safe and reliable operation. The following wiring diagrams show how batteries, battery switches, and Automatic Charging Relays are wired together from a simple 1 battery - 1 engine configuration to a 4 battery - 2 engine - 1 generator system. For more detailed wiring guidelines please consult a qualified marine electrician or one of the many books available on the subject.

Note: The ACRs pictured are representative of any ACR. The battery switches are representative of any Battery Switch of the same model.

1 Battery - 1 Engine

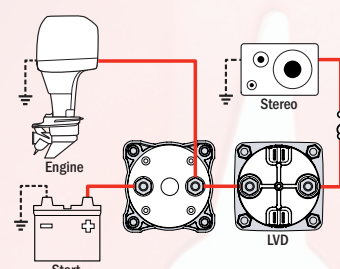
Switches a single battery to a single load group.

ON-OFF Battery Switch



Saves battery power for starting.

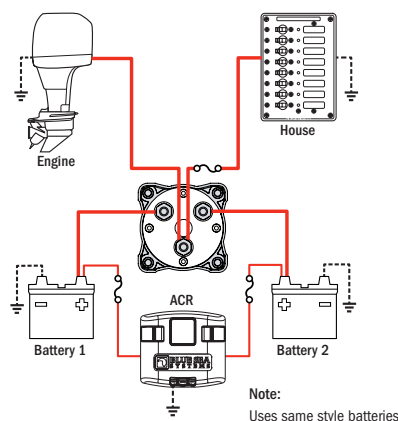
1 ON-OFF Battery Switch
1 Low Voltage Disconnect



2 Battery - 1 Engine

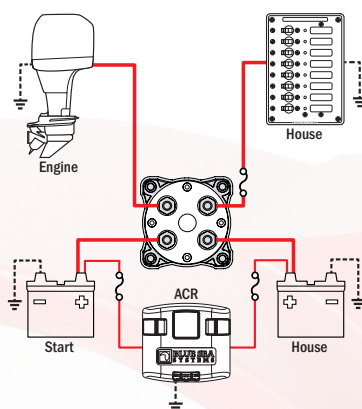
Switches isolated battery banks to all loads or combines battery banks to all loads.

1 Selector Battery Switch
1 Automatic Charging Relay



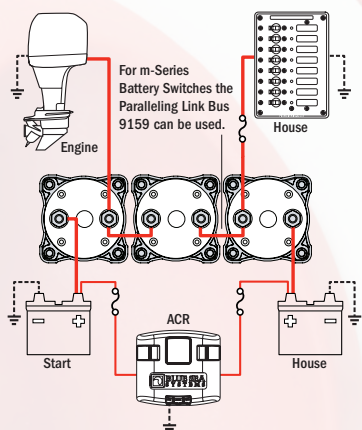
Simultaneously switches two isolated batterybanks or combines battery banks to all loads.

1 Dual Circuit Plus™ Battery Switch
1 Automatic Charging Relay



Can isolate a failed battery.

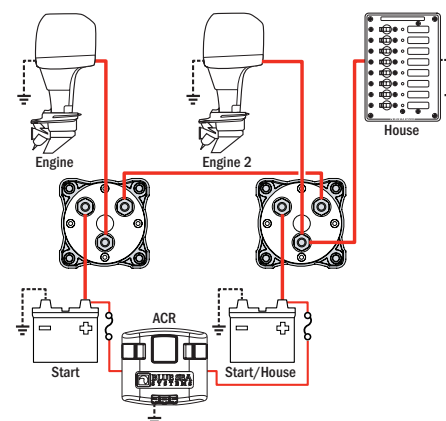
3 ON-OFF Battery Switches
1 Automatic Charging Relay



2 Battery - 2 Engine

House battery is shared with one engine. One engine battery is in reserve.

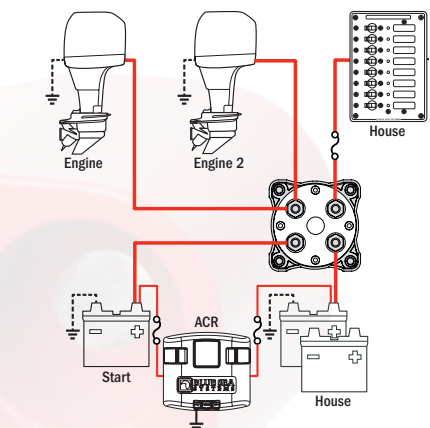
2 Selector Battery Switches
1 Automatic Charging Relay



Normal - Set all switches to position 1
Parallel - Set all switches to position 1+2
Isolate - Set Load switch to Position 2 and Source Switch to position 1+2

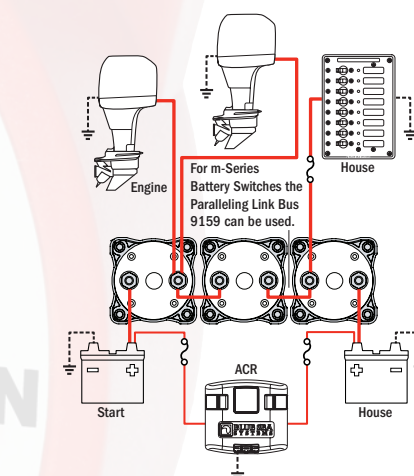
Engines share one battery. House battery is in reserve.

1 Dual Circuit Plus™ Battery Switch
1 Automatic Charging Relay



Can isolate a failed battery.

3 ON-OFF Battery Switches
1 Automatic Charging Relay

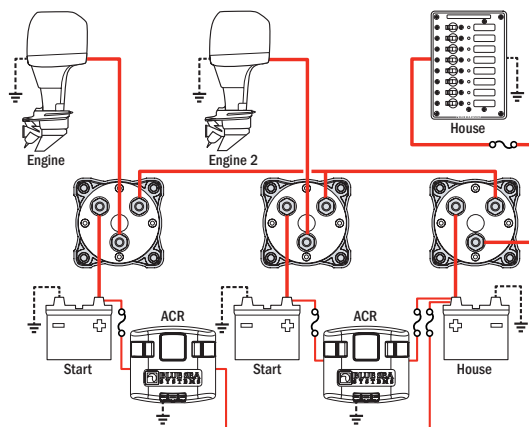


3 Battery - 2 Engine

Can isolate any battery source from any batteries.

3 Selector Battery Switches

2 Automatic Charging Relays



Normal - Set all switches to position 1

Parallel - Set all switches to position 1+2

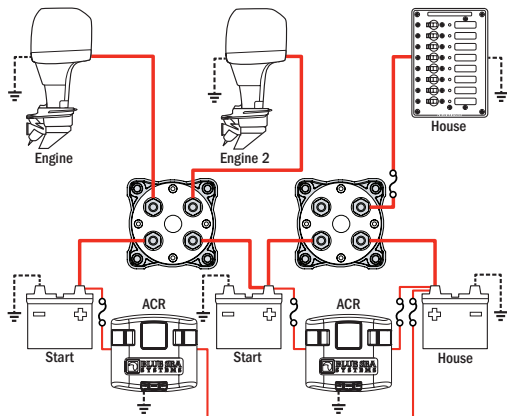
Isolate - Set Load switch to Position 2 and

Source Switch to position 1+2

Can parallel batteries for extra starting power.

2 Dual Circuit Plus™ Battery Switches

2 Automatic Charging Relays



LEGEND

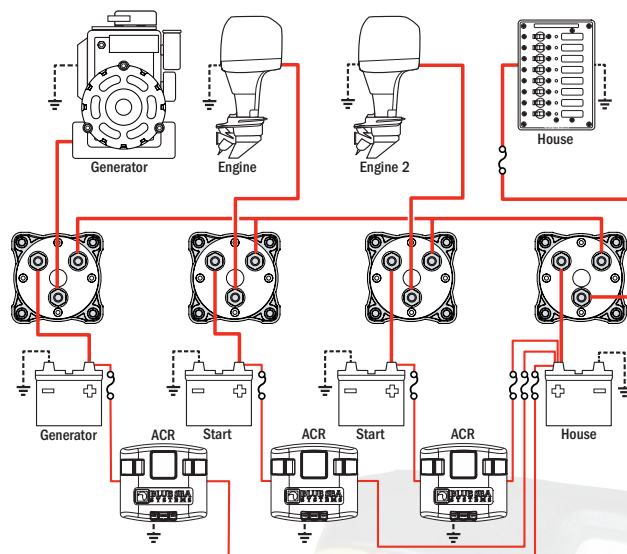
- Power DC
- Ground
- ~ Fuse

4 Battery - 2 Engine - 1 Generator

Can isolate any battery source from any batteries.

4 Selector Battery Switches

3 Automatic Charging Relays



Normal - Set all switches to position 1

Parallel - Set all switches to position 1+2

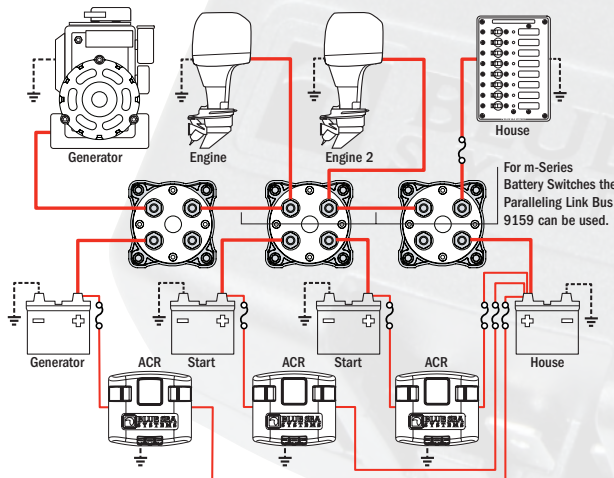
Isolate - Set Load switch to Position 2 and

Source Switch to position 1+2

Can parallel batteries for extra starting power.

3 Dual Circuit Plus™ Battery Switches

3 Automatic Charging Relays



BLUE SEA SYSTEMS
SI-ACR
START ISOLATION
AUTOMATIC
CHARGING RELAY
360.738.8230
conductor@bluesea.com

DC Main Circuit Protection and Branch Circuit Protection

Purpose

Fuses and circuit breakers are used to protect wire insulation from melting and starting fires in the event of overcurrents or short circuits which cause more amperage to flow in a wire than that wire is rated to carry. It is important to note that, except for those wires that are intended to carry starting currents, every positive wire in the DC Main Power Distribution System must be protected by a fuse or circuit breaker.

Considerations for DC Main Circuit Protection

Mounting Placement—distance from power source.

The DC Main circuit protection system uses circuit breakers or fuses to protect the wires of the DC Main distribution system. The American Boat and Yacht Council (ABYC) publishes voluntary standards for the type and placement of the fuse or circuit breaker to be used as a DC Main circuit protection device. Wire intended to carry engine starting currents between the batteries, the switch, and the starter is not required to have main circuit protection devices installed. Maximum mounting placement dimensions for a fuse or circuit breaker are 7" if the conductor is not housed in a sheath or enclosure in addition to the wire insulation, 40" if the conductor is housed in a sheath or enclosure in addition to the wire insulation, and 72" if the conductor is connected directly to the battery and housed in a sheath or enclosure in addition to the wire insulation.




Selecting DC Main Circuit Protection.

The principal attribute of a DC Main circuit protection device is its Ampere Interrupt Capacity (AIC) rating. Specifications listed in the ABYC standards determine the AIC a DC Main circuit protection device must have. The required AIC rating is determined by the total CCA of the batteries connected to the circuit. See the tables at right for the required AIC ratings.

Wire selection for DC applications on boats is usually based on voltage drop requirements. However, there is a maximum continuous current that the wire can withstand without overheating. Higher grade marine wires are rated for service up to 105°C (221°F)—the ABYC wire capacity table for 105°C is most frequently quoted. The 105°C table accurately reflects the capacity of single conductors exposed to freely circulating cooling air. However, other factors, such as covering bundles of wire in outer jackets to form a cable, or use of conduits or structural voids to protect wires, can reduce the cooling and reduce the safe capacity of the wire. A more conservative strategy is to use the 105°C wire, but treat it according to the 75°C table above when selecting circuit protection unless the wire is openly exposed for cooling.

See the Blue Sea Systems Circuit Wizard at circuitwizard.bluesea.com or pages 121-123 for more assistance with wire and circuit protection selection.

ABYC Interrupt Rating Table

Total Connected Battery Cold Cranking Amperes (CCA) *		Ampere Interrupt Capacity	
12 VOLTS AND 24 VOLTS			
The white boxes identify two batteries, of the same size, placed in parallel configuration.		DC MAIN	DC BRANCH
	650 CCA or Less	1,500 AIC	750 AIC
	651–1,100 CCA	3,000 AIC	1,500 AIC
	Over 1,100 CCA	5,000 AIC	2,500 AIC
32 VOLTS			
	1,250 CCA or Less	3,000 AIC	1,500 AIC
	Over 1,250 CCA	5,000 AIC	2,500 AIC

* Battery cold cranking performance rating at -17.8°C (0°F): The discharge load in amps that a battery at -17.8°C (0°F) can deliver for 30 seconds, and maintain a voltage of 1.2 Volts per cell or higher, (e.g. 7.2 Volts for a 12 Volt battery). The CCA for the battery icons in this chart is an approximation and could be slightly higher or lower. Consult the battery manufacturer's specifications for precise CCA ratings. A battery rated in MCA will have a CCA capacity approximately 80% of MCA

ABYC E-11 requires the use of circuit breakers that can be reused and reset and that they be applied as per the table above. The standard does not strictly require that fuses be applied in the same way, but it is an issue to consider, especially with high amp fuses used to protect panel feeders or inverters. Fuses under 10 Amp rating generally have such a high internal resistance they prevent fault currents from reaching 1000 Amps in 12 Volt circuits. The apparent contradiction when using these fuses for bilge pumps and other circuits directly off the battery is less of an issue than it might seem. If a fuse blows, and the case appears to be cracked or metal has been ejected, the fuse holder should be replaced.

ABYC Ampacity Rating Table at 30°C

WIRE SIZE		TEMPERATURE RATING OF CONDUCTOR INSULATION						REFERENCE DATA			
Standard	Metric	75°C	90°C	105°C	75°C	90°C	105°C		Ohms	Ohms	
AWG	mm²	EngRm	EngRm	EngRm	EngRm	EngRm	EngRm	mm dia	/1000ft	/1000m	
	0.75	9.5	7	19	15.5	19	16	6.6	5.0	13	11
18	0.82	10	8	20	16	20	17	7	5	14	12
	1.0	13	10	21	17	21	18	9	7	15	12
16	1.3	15	11	25	21	25	21	11	8	18	14
	1.5	16	12	24	20	24	20	11	9	17	14
14	2.1	20	15	30	25	30	25	14	11	21	17
	2.5	21	16	34	28	34	28	15	11	23	19
12	3.3	25	19	40	33	40	33	18	13	28	23
	4.0	34	25	46	38	46	38	24	18	32	27
10	5.3	40	30	55	45	55	45	28	21	39	32
	6.0	53	40	57	47	57	47	37	28	40	33
8	8.4	65	49	70	57	70	57	46	34	49	40
	10.0	79	60	84	69	100	85	56	42	59	48
6	13.3	95	71	100	82	120	102	67	50	70	57
	16.0	105	79	113	93	134	114	73	55	79	65
4	21	125	94	135	111	160	136	88	66	95	78
	25	141	106	150	123	175	148	99	74	105	86
3	27	145	109	155	127	180	153	102	76	109	89
2	34	170	128	180	148	210	179	119	89	126	103
	35	173	130	186	153	217	185	121	91	130	107
1	42	195	146	210	172	245	208	137	102	147	121
	50	220	165	235	193	273	232	154	116	164	135
0	54	230	173	245	201	285	242	161	121	172	141
00	68	265	199	285	234	330	281	186	139	200	164
	70	274	206	292	239	341	289	192	144	204	168
000	85	310	233	330	271	385	327	217	163	231	189
	95	334	251	357	293	413	351	234	175	250	205
0000	107	360	270	385	316	445	378	252	189	270	221
	120	387	290	414	339	478	406	271	203	290	237
	150	445	333	476	390	550	467	311	233	333	273

Data based on E-11 Table VI-A
(Single Conductors in Free Air)

Data based on E-11 Table VI-B
(Up to three conductors in a sheath, conduit or bundle)

SAE conductors are smaller than equivalent AWG by 5% to 12% with current capacity typically less by 7%. ISO Ratings for metric wire are slightly less than these values derived from ABYC VI-A ratings.

- For bundles of 4 to 6 conductors multiply by 0.857
- For bundles of 7 to 24 conductors multiply by 0.714
- For bundles of 25 or more, conductors multiply by 0.571

Wires counted in bundles need not include:

1. Wires carrying intermittent currents no more than rating per VI-A and for less than one minute per mm of diameter, and not repeating more often than a delay of 5X times active duration.
2. Wires carrying load currents at less than 50% of the wire rating per table VI-B.

AC Main Power Distribution and Circuit Protection

Purpose

- Provide a path for delivering power from the ship's sources of AC power to the AC branch distribution system
- Provide a path for returning fault currents to ground via the green safety ground wire
- Provide a means for disconnecting AC power when the boat is not in use or in emergencies
- Provide electrical separation to insure that two sources of AC power are never connected
- Provide circuit protection for neutral and line wires in the AC main system
- Provide ground fault protection
- Provide ELCI overload or leakage fault protection

AC Wire Systems

The three most common AC systems used on boats are shown here. In all cases the ground, sometimes called safety ground to clarify its purpose and differentiate it from the DC ground or negative, is said to be a "normally non-current carrying wire." Its purpose is to provide the lowest resistance path for AC currents that have strayed from their proper containment in the normally current carrying hot and neutral wires. The ground wire is connected to the exterior conductive parts of AC devices that could be touched by a person during normal operation, and it conducts errant AC currents safely to ground rather than passing them through a human body. The ground wire is never passed through a circuit breaker.

120 Volt-60 Hz	120/240 Volt-60 Hz	230 Volt-50 Hz
Hot	Hot 1	Hot
Neutral	Hot 2	Neutral
Ground	Neutral	Ground
	Ground	

Devices Qualifying as AC Main Circuit Breakers

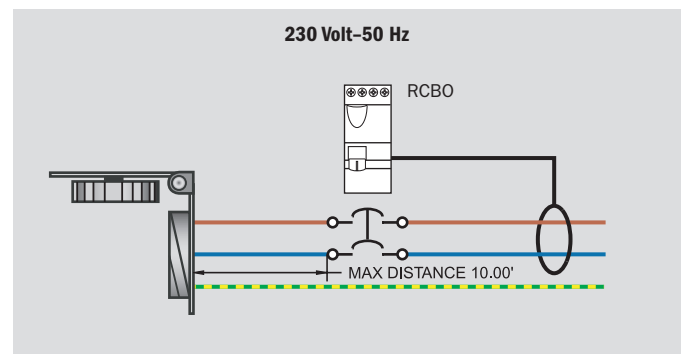
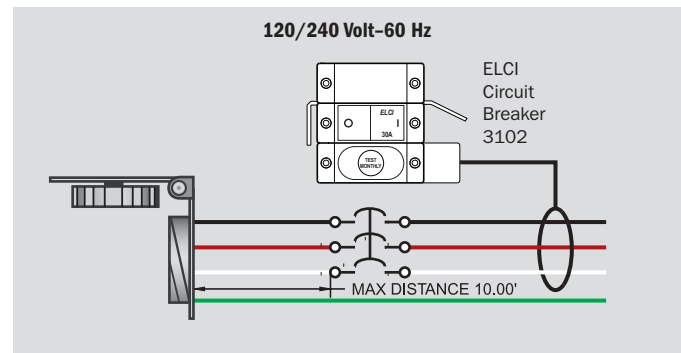
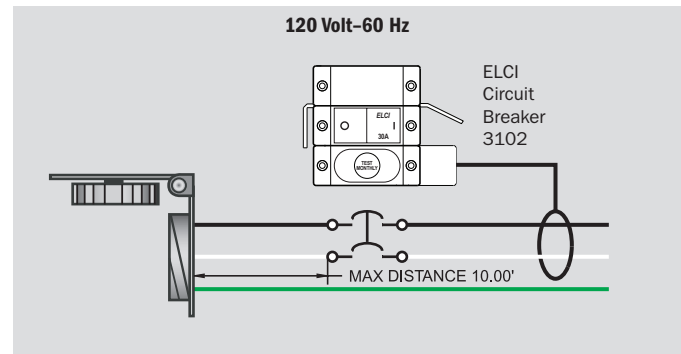
In order to qualify as an AC main circuit breaker, these characteristics must be present:

1. The circuit breaker must have an Amperage Interrupt Capacity (AIC) meeting the requirements of the following tables.
2. The circuit breaker must be multiple pole, usually 2 or 3.
3. The circuit breaker must be rated for the appropriate AC system voltage in which it will be used.
4. The circuit breaker must be available in amperages appropriate to the design amperage of the system. In the USA, this is generally 30A and 50A, while European systems are generally 16A and 32A.
5. The ELCI shall have a leakage trip mechanism that trips below 30mA when current leaks to ground.

AC Shore Power Source	Main Circuit Breaker	Branch Circuit Breaker
120V - 30A	3,000	3,000
120V - 50A	3,000	3,000
120/240V - 50A	5,000	3,000
240V - 50A	5,000	3,000

Sources of AC power, whether shore power or onboard generators and inverters, should always have a circuit breaker near the power source. This circuit breaker is designated the AC main circuit breaker. The AC main circuit breaker should always have a pole for each of the hot and neutral wires in the circuit assuring that circuit protection functions are not compromised in reverse polarity situations.

Beginning in July 2010 ABYC Standards require that an Equipment Leakage Circuit Interrupter (ELCI) with a 30mA leakage trip be installed in shore power applications as the first protective device after the power inlet. ELCIs respond to leakage of electrical current outside of the intended current path, and provide overload and short circuit protection. They serve as the main AC circuit breaker for the system. These devices will open all energized conductors and the neutral when opened manually or tripping on an overload or leakage fault. For a more complete discussion of ELCIs, see page 54-55.



Marketing Materials

Blue Sea Systems offers sales and marketing materials that assist in the merchandising, promotion, and selection of products. For updated information and new marketing and sales materials, visit blueseas.com/marketing.

Brushed Cotton Hats

- Adjustable strap
- One size fits all



Part N°	Color
20004	Stone
20003	Navy Blue

2014 Catalog



- 20014
- 132 pages
 - 24 catalogs per case
 - Order individually

Merchandising Plan Book



- 20026
- Merchandising plans of the best sellers
 - Multi-page guidebook
 - Order individually



Scan to see all
Marketing Materials

Wire, Fuse and Fuse Holder Selection Chart

Protect Your Boat With the Correct Size Wire, Fuse, and Fuse Holder

U.S. Coast Guard and other regulatory agencies require all circuits, except the starting circuit, to be protected with a circuit breaker or a fuse.

STEP 1 Choose the Correct Wire

A Locate the CURRENT FLOW IN AMPS of your circuit along the top of the chart to the right.

B Select the CIRCUIT TYPE. Insulated conductors with 10% voltage drop may include: power wiring, engine, fuel, water, ground systems. Other conductors with 5% voltage drop may include: radio, stereo, navigation, lighting, bilge pumps, battery chargers, etc.

C Find the CIRCUIT LENGTH along the left side of the chart. The chart length is in feet (1 ft = 12 in). The chart length is in feet (1 ft = 12 in). The chart length is in feet (1 ft = 12 in).

D Follow the CURRENT FLOW IN AMPS with CIRCUIT LENGTH to identify the correct wire size. Example: A 100A circuit with 20 ft. from the battery. The correct length is the total length of the positive and negative wires added together, which in this example is 40 ft. The correct size is 1/0 AWG.

WIRE SIZE CHART Codes indicate actual diameter of wire (AWG) in mils.

STEP 2 Choose the Correct Fuse and Fuse Amperage

A Choose a fuse from the list on the top of the chart to the right to indicate along the line of the WIRE SIZE determined from Step 1. Appropriate fuses will have a gray bar that indicates the line.

B The appropriate fuse amperage will be listed in one of the four gray bars below the selected fuse type.

C Select the correct fuse holder from the list on the top of the chart to the right to indicate along the line of the WIRE SIZE determined from Step 1. Appropriate fuse holders will have a gray bar that indicates the line.

STEP 3 Choose a Fuse Holder

A Using the same colored headings as in the steps above, follow the options down to find fuse holders or fuse blocks that meet your specific requirements.

B Consider environmental factors.

C Decide between an inline fuse holder or a fuse block.

D Select the correct fuse holder from the list on the top of the chart to the right to indicate along the line of the WIRE SIZE determined from Step 1. Appropriate fuse holders will have a gray bar that indicates the line.

- 20010
20" x 17" Deskmat

You Can Do It Guides



- 20008 Protect Your Boat with the Correct Size Wire, Fuse, and Fuse Holder (20 per pack)
- 20009 Add-A-Battery (20 per pack)
- 20024 Install an ELCI Breaker (20 per pack)
- 20005 Design and Order a Custom 360 Panel (20 per pack)

Panel Guide



- 20001
- Outlines above and below deck panels and accessories (20 per pack)

Logo Sign



- 20006
24" x 7"



- 20036
11.5" x 4"

Window Decal



- 9804
9" x 2.25"

Back Tags



- 9914

Merchandising Plans

Blue Sea Systems provides merchandising plans to assist with organizing the visual presentation of the product. The plans are available in different sizes to suit the needs of the dealer. A sample of the plans are shown on this page. Additional merchandising plans and specific information of each plan is available at blueseas.com/marketing.



Scan for additional
Merchandising Plans

AGC® Fuse and Fuse Block
8341050 Micro



ATO®/ATC® Fuse and Fuse Block
8341060 Micro



NEW

easyID™ ATC® Fuse and Fuse Block
8341061 Micro



NEW

AMI®/MIDI® Fuse and Fuse Block
8341070 Micro



12V DC Accessories
8346050 Micro



NEW

M-Series Battery Management
8343050 Micro



NEW

E-Series Battery Management
8343060 Micro



NEW
NEW

NEW
NEW

Part N°	Merchandising Plan
8341050	AGC® Fuse and Fuse Block
8341060	ATO®/ATC® Fuse and Fuse Block
8341061	easyID™ ATC® Fuse and Fuse Block
8341070	AMI®/MIDI® Fuse and Fuse Block
8346050	12V DC Accessories
8343050	M-Series Battery Management
8343060	E-Series Battery Management

Part N°	Page N°	Part N°	Page N°	Part N°	Page N°	Part N°	Page N°	Part N°	Page N°
1001	73	1231	90	2129	47	3093	55	4304	77
1001100	73	1232	90	2130	47	3100	55	4305	77
1002	73	1233	88	2131	47	3102100	55	4306	77
1002100	73	1325	102	2132	47	3103	55	4307	77
1003	73	1331	115	2133	47	3104	55	4308	77
1003100	73	1408	20	2134	47	3106100	55	4309	77
1007	73	1450	82	2135	47	3113	56	4374	77
1007100	73	1452	84	2136	47	3116	56	4376	77
1010	114	1455	82	2137	47	3117	56	4378	77
1011	114	1456	82	2138	47	3118	56	5001	40
1012	114	1457	82	2139	47	3119	56	5005	41
1013	114	1459	82	2140	47	3120	56	5006	38
1014	114	1461	83	2141	47	3124	56	5015	38
1015	114	1463	82	2142	47	3125	56	5018	38
1016	114	1464	83	2143	47	3126	56	5021	37
1017	114	1472	114	2145	61	3131	50	5022	37
1020B	111	1473	106	2146	61	4001	72	5025	39
1021B	111	1474	104	2151	40	4002	72	5026	39
1022B	111	1475	104	2155	61	4003	72	5028	39
1023B	111	1477	48	2201	70	4004	72	5029	39
1024B	111	1478	114	2202	70	4005	72	5030	39
1025B	111	1479	115	2203	70	4006	72	5031	39
1026B	111	1479100	115	2204	70	4008	72	5033	39
1027B	111	1480	93	2300	67	4009	72	5034	39
1028B	111	1481	92	2301	67	4010	72	5035	38
1029B	111	1482	92	2302	67	4011	72	5037	38
1030B	111	1483	92	2303	67	4012	72	5049	46
1050	108	1484	92	2304	66	4013	72	5050	46
1051	108	1485	92	2305	66	4014	72	5051	46
1052	108	1486	92	2306	66	4015	72	5052	46
1053	108	1487	93	2307	67	4016	72	5054	46
1054	108	1488	93	2312	67	4017	72	5060	37
1055	108	1489	93	2314	66	4018	72	5061	37
1056	108	1500	91	2315	66	4019B	72	5062	37
1057	108	1502	91	2402	69	4020B	72	5063	37
1058	108	1510	111	2404	69	4026	115	5064	37
1139	15	1518	115	2406	69	4027	115	5065	37
1147	61	1519	102	2408	69	4028	115	5101	36
1148	61	1520	61	2410	69	4029	115	5102	36
1168	91	1521	10	2502	69	4031	115	5103	36
1173	97	1522	61	2504	69	4100	116	5104	36
1190	91	1800	102	2506	69	4111	62	5105	36
1193	91	1801	102	2508	69	4112	62	5106	36
1200	82	1810	103	2510	69	4113	115	5107	36
1201	84	1811	103	2512	69	4116	62	5108	36
1202	89	1820	103	2602	69	4117	62	5117	37
1203	89	2001	70	2604	69	4119	62	5118	37
1206	88	2002	70	2606	69	4121	117	5119	37
1207	88	2003	70	2608	69	4125	116	5120	37
1208	90	2010	70	2610	69	4126	116	5121	37
1209	90	2011	70	2701	66	4130	116	5122	37
1210	86	2016	70	2702	66	4131	116	5123	37
1211	86	2016100	70	2708	69	4135	46	5124	37
1214	88	2017	70	2709	66	4136	46	5125	37
1215	88	2017100	70	2710	66	4137	46	5126	37
1216	82	2018	70	2713	66	4138	62	5127	37
1217	83	2018100	70	2715	67	4150	62	5128	37
1218	94	2019	69	2716	67	4151	62	5129	37
1219	94	2020	69	2718	68	4152	62	5130	37
1221	84	2101	70	2719	68	4153	62	5131	37
1222	84	2102	70	2722	66	4154	62	5132	37
1223	83	2103	70	2723	66	4155	62	5133	37
1224	83	2104	69	3000	17	4215	117	5134	37
1225	82	2105	68	3001	17	4216	117	5135	37
1227	83	2107	69	3002	17	4217	117	5136	37
1228	86	2126	68	3003	17	4218	117	5137	37
1229	86	2127	68	3091	55	4302	77	5138	35
1230	88	2128	68	3092	55	4303	77	5139	35

Part N°	Page N°
5140	35
5141	35
5142	35
5143	35
5161	37
5162	37
5163	37
5164	37
5165	37
5175	36
5176	36
5177	36
5178	36
5180	36
5181	36
5182	36
5183	36
5184	36
5185	36
5186	36
5187	36
5188	36
5189	36
5190	36
5191	40
5201	34
5202	34
5204	34
5204100	34
5205	34
5206	34
5206100	34
5207	34
5208	34
5208100	34
5209	34
5210	34
5210100	34
5211	34
5212	34
5213	34
5213100	34
5215	34
5215100	34
5217	34
5217100	34
5218	34
5218100	34
5219	34
5219100	34
5220	34
5220100	34
5226	34
5227	34
5228	34
5229	34
5230	34
5231	34
5232	34
5233	34
5234	34
5235	35
5235100	35
5236	35
5236100	35
5237	35
5237100	35
5238	35

Part N°	Page N°
5239	35
5239100	35
5240	35
5240100	35
5241	35
5241100	35
5242	35
5242100	35
5243	35
5243100	35
5244	35
5244100	35
5245	35
5245100	35
5246	35
5250	36
5251	36
5252	36
5253	36
5254	36
5255	36
5256	36
5257	36
5258	36
5259	36
5260	36
5270	35
5271	35
5272	35
5273	35
5274	35
5275	34
5280	34
5281	34
5282	34
5283	34
5284	34
5285	34
5286	35
5287	35
5288	34
5289	34
5290	35
5291	35
5292	35
5293	35
5294	35
5295	35
5296	35
5297	35
5298	35
5299	35
5502	41
5503	41
5510C	16
5511C	16
6005	15
6005200	15
6006	15
6006200	15
6007	15
6007200	15
6010	15
6010200	15
6011	15
6011200	15
6337	93
6845	105

Part N°	Page N°
7035	49
7036	49
7037	49
7038	49
7039	49
7040	49
7041	49
7042	49
7043	49
7044	49
7045	49
7046	49
7047	49
7048	49
7049	49
7050	47
7052	47
7053	47
7054	47
7055	47
7056	47
7057	47
7058	47
7059	47
7061	47
7080	48
7081	48
7082	48
7083	48
7084	48
7085	48
7086	48
7087	48
7088	48
7089	48
7098	48
7135	49
7136	49
7137	49
7138	49
7139	49
7140	49
7141	49
7142	49
7143	49
7144	49
7145	49
7146	49
7147	49
7148	49
7149	49
7180	48
7181	48
7182	48
7183	48
7184	48
7185	48
7186	48
7187	48
7188	48
7189	48
7198	48
7200	50
7201	50
7202	50
7204	50
7205	50
7206	50

Part N°	Page N°
7208	50
7209	50
7210	50
7212	50
7213	50
7214	50
7216	50
7217	50
7218	50
7220	50
7221	50
7222	50
7224	50
7225	50
7226	50
7228	50
7229	50
7230	50
7232	50
7233	50
7234	50
7235	50
7236	50
7237	50
7238	50
7239	50
7240	50
7241	50
7242	50
7244	52
7246	52
7248	52
7250	52
7250i	52
7251	52
7254	52
7256	52
7258	52
7260	50
7267	52
7268	52
7269	52
7270	52
7271	52
7287	52
7288	52
7289	52
7290	52
7294	50
7295	50
7299	50
7347	50
7348	50
7349	50
7350	52
7351	52
7352	52
7353	52
7354	52
7355	52
7365	52
7372	91
7400	51
7401	51
7402	51
7403	51
7404	51
7405	51

Part N°	Page N°
7406	51
7407	51
7408	51
7410	51
7411	51
7412	51
7413	51
7414	51
7415	51
7416	51
7417	51
7425	51
7427	51
7428	51
7429	51
7430	51
7433	51
7475	53
7476	53
7477	53
7480	61
7481	61
7482	61
7483	61
7484	61
7485	61
7490	61
7491	61
7492	61
7493	61
7494	61
7495	61
7504	11
7506	11
7507	11
7508	11
7509	11
7520	10
7521	8
7522	8
7540	53
7541	53
7542	53
7543	53
7545	53
7546	53
7547	53
7548	53
7549	53
7554	53
7560	53
7561	53
7563	53
7564	53
7565	53
7568	53
7574	51
7575	51
7577	51
7580	53
7581	53
7583	53
7584	53
7585	53
7588	53
7601	25
7610	25
7611	27

Part N°	Page N°	Part N°	Page N°	Part N°	Page N°	Part N°	Page N°	Part N°	Page N°
7620	28	8035	52-53	8208	62	8295	60	8578	86
7620100B	28	8037	60	8209	62	8296	60	8579	87
7621	28	8038	106	8210	62	8297	60	8580	86
7621100B	28	8039	117	8211	62	8298	60	8585	89
7622	28	8041	106	8212	62	8299	60	8588	89
7622100B	28	8043	88	8214	117	8357	92	8589	90
7623	28	8051	104	8216	60	8358	92	8598	90
7623100B	28	8053	79	8217	117	8359	92	8599	90
7635	23	8054	79	8218	60	8361	93	8686	20
7649	26	8058	86	8219	60	8363	93	8689	20
7650	26	8059	86	8220	60	8365	92	8690	20
7700	22	8061	90	8221	60	8366	92	8693	20
7700100B	22	8065	117	8222	60	8367	92	9001C	16
7701	21	8066	116	8230	60	8369	93	9002C	16
7701100B	21	8067	117	8231	60	8371	79	9003C	16
7702	22	8068	83	8232	60	8372	79	9004C	16
7702100B	22	8069	117	8233	60	8373	79	9009	92
7703	21	8072	50	8234	60	8374	79	9010	92
7703100B	21	8073	109	8235	104	8375	83	9011	92
7712	22	8074	89	8236	104	8376	83	9012	21
7712100B	22	8076	89	8237	105	8377	84	9019	93
7714	22	8077	88	8238	105	8378	84	9030B	72
7714100B	22	8079	88	8239	105	8379	84	9031B	72
7720	40	8080	20	8240	106	8380	84	9038B	72
7721	40	8081	82	8243	106	8381	85	9039B	72
7725	42	8082	83	8244	107	8382	85	9040B	72
7727	43	8084	94	8245	107	8383	117	9041B	72
7730B	43	8086	95	8246	107	8384	117	9077	93
7731B	42-43	8087	52	8247	105	8385	82	9093	93
7732B	43	8088	52	8248	104	8386	93	9159	15
7748	43	8089	52	8251	104	8401	82	9160	28
7900	15	8095	94	8252	106	8402	83	9176B	72
7900200	15	8096	82	8253	106	8403	83	9177B	72
7901	15	8097	86	8254	106	8405	88	9216	69
7901200	15	8099	88	8255	109	8406	89	9217	69
7902	117	8100	91	8256	109	8407	89	9218	69
7929	60	8101	91	8257	109	8408	95	9228	109
7930	60	8102	91	8258	107	8409	88	9230	109
7931	60	8110	109	8259	61	8410	105	9233	109
7932	60	8127	88	8260	61	8411	86	9353	107
7933	60	8129	88	8261	79	8412	88	9354	107
7934	60	8132	90	8262	79	8461	87	9630	107
7935	60	8134	116	8263	79	8462	90	9804	128
7936	60	8143	88	8264	84	8464	89	9914	128
7937	60	8158	86	8265	87	8465	89	11001	16
7938	60	8159	86	8266	61	8466	90	11003	17
7939	60	8161	90	8267	61	8467	90	20001	128
7943	60	8165	87	8268	61	8478	86	20003	128
7944	60	8166	116	8271	79	8479	87	20004	128
7945	60	8167	116	8272	79	8480	86	20005	128
8003	106	8169	116	8273	79	8485	89	20006	128
8005	106	8171	116	8274	79	8488	89	20008	128
8013	105	8172	116	8275	60	8489	90	20009	128
8015	106	8173	50	8278	60	8498	90	20010	128
8017	106	8174	89	8280	20	8499	90	20014	128
8018	106	8176	89	8282	60	8505	88	20026	128
8019	106	8177	88	8283	60	8506	89	20036	128
8022	106	8179	88	8284	60	8507	89	8341050	129
8023	82	8184	94	8285	60	8508	95	8341060	129
8025	82	8186	95	8286	60	8509	88	8341061	129
8027	88	8195	94	8287	60	8511	86	8341070	129
8028	106	8197	86	8288	60	8512	88	8343050	129
8029	88	8199	88	8289	60	8561	87	8343060	129
8030	117	8200	62	8290	60	8562	90	8346050	129
8031	117	8204	62	8291	60	8564	89		
8032	90	8205	62	8292	60	8565	89		
8033	116	8206	62	8293	60	8566	90		
8034	116	8207	62	8294	60	8567	90		

