

ML-Series

Remote Battery Switch (with manual control)

PN 7700B / PN 7700100B / PN 7702B / PN 7702100B

Solenoid Switch (without manual control)

PN 7701B / PN 7701100B / PN 7703B / PN 7703100B

- Magnetic Latch (ML)—draws no current in ON or OFF state, only draws current when changing state of switch
- Deutsch harness connector for rapid connections (select models)
- Silver alloy contacts provide high reliability for switching live loads
- Manual control override knob provides an added level of safety allowing control with or without power, and offering LOCKED OFF capability for servicing (Remote Battery Switch ONLY)
- LED output to remotely indicate switch state
- Tin-plated copper studs for maximum conductivity and corrosion resistance
- Label recesses for circuit identification

Remote Battery Switch and Solenoid Switch Specifications

Cranking Rating: 10 sec.	2,500A DC
Intermittent Rating: 5 min.	See Table Below
Continuous Rating	See Table Below
Amperage Operating Current	100 mA when changing state
Voltage Maximum Operating	32V DC Max.
Live Current Switching	300A@12V DC—10,000 Cycles
Mechanical Endurance	100,000 Cycles
Control Circuit Voltage	10.1 to 16.5V (12V models), 20.2 to 32.9V (24V models)
Terminal Stud Size	3/8"-16
Maximum Terminal Stud Torque	140 in-lb (15.5 N•m)
Ring Terminals Size	3/8", M10
Terminal Ring Diameter Clearance	1.12" (28.4mm)

Harness Connector: (select models)	Deutsch DTM Series DTM 06-6S
Mating Part Requirements: (see LADD Industries www.laddinc.com)	DTM-04-6P*
Receptacle Shell	WM-6P
Wedgelock	1060-20-0122†
Terminal Pins	0413-204-2005†
Sealing Plugs	DTT-20-0‡
Hand Crimp Tooling	Momentary SPDT (ON)-OFF-(ON) or two momentary push button switches, 100mA rating Min.
Remote Control Switch (sold separately)	

Regulatory: Meets ISO 8846 and SAE J1171 external ignition protection requirements, Rated IP66

* Special modifications are available depending on customer requirements. No polarization on standard product.

† Quantity depends on optional wire connections. The total number of pins and sealing plugs is 6.

‡ Required for hand assembly of wires and terminal pins.

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

Solenoid Switch			
PN	Termination	Manual Control	Control Circuit
7701B	Tinned Wires	No	12V DC
7701100B	Deutsch Connector	No	12V DC
7703B	Tinned Wires	No	24V DC
7703100B	Deutsch Connector	No	24V DC

Remote Battery Switch			
PN	Termination	Manual Control	Control Circuit
7700B	Tinned Wires	Yes	12V DC
7700100B	Deutsch Connector	Yes	12V DC
7702B	Tinned Wires	Yes	24V DC
7702100B	Deutsch Connector	Yes	24V DC

Overview of Application

The ML-Series Remote Battery Switch/Solenoid Switch provides high-current carrying and switching under load. The Remote Battery Switch/Solenoid Switch is installed close to the battery banks. A single pole double throw (SPDT) Control Switch Panel, or two momentary push button switches (sold separately), operate the Remote Battery Switch/Solenoid Switch. Control Switches are installed in a convenient location near other electrical controls or companionway (see Illustrations on reverse).

The Manual Control Override Knob provides (Remote Battery Switch Only):





- an added level of safety that allows manual ON-OFF control with or without power
- LOCK OFF for servicing the electrical system

A remote LED (sold separately) indicates a closed connection between battery bank and load, or between two battery banks when used as an emergency cross-connect.

Remote Operation. A momentary (SPDT) (ON)-OFF-(ON) control switch or two momentary push button switches (sold separately) can provide cross connect and/or battery isolation. The control switch should be mounted in a convenient location near helm controls to allow for quick access.

To connect battery bank to load, or combine battery banks	Momentarily depress control switch actuator to "ON". Optional remote LED indicates closed connection.*
To disconnect battery bank from load, or isolate battery banks that are connected	Momentarily depress control switch actuator to "OFF".*

Emergency Manual Control Override Operations (Remote Battery Switch Only)

To connect battery bank to load, or combine battery banks	With Override Knob in (REMOTE position), push button until latched (Push to Latch On).	
To disconnect battery bank from load, or isolate battery banks that are connected	Rotate Override Knob to right to release button from Latch On mode (button pops up). Rotate Override Knob to left (REMOTE position).	
To prevent remote operation	Rotate Override Knob to right (LOCK OFF position).	
To secure for servicing	With Override Knob in (LOCK OFF position), pass cable tie through hole.	

* If the Control Switch is held ON or OFF for 5 seconds, the internal coil protection will engage and the Remote Battery Switch/Solenoid Switch will not respond to further remote input for approximately 10 seconds.

⚠ CAUTION ⚠

- ✓ These instructions are intended to provide assistance with the installation of this product, and are not a substitute for a more comprehensive understanding of electrical systems. We strongly recommend that a competent electrical professional perform the installation of this product.
- ✓ The illustrated wiring diagram represents a common installation and is not meant to be a guide for wiring a specific vessel. The wiring diagram shows a single battery bank installation.
- ✓ Disconnect all negative battery connections before beginning the installation.
- ✓ All unused control wires should be carefully insulated from each other and from accidental contact using heat shrink tubing or electrical tape. External contact or shorting between control wires can lead to malfunction.

Installation Instructions

Mounting

Install as close as possible to battery bank. To avoid corrosion to connecting wires and terminals, mount in a dry and protected location. Avoid mounting directly above vented lead acid batteries so that the Remote Battery Switch/Solenoid Switch is not exposed to corrosive gasses expelled from the batteries.

High Current Primary Circuit Connections (stud terminals A and B)

For help selecting the appropriate wire size and circuit protection rating, go to www.blueseas.com and click the *Circuit Wizard* quick link.

NOTE: Stud terminals A and B are interchangeable. The load can be connected to A or B; the battery bank can be connected to A or B.

To connect high current circuit wires:

1. Connect the battery bank to one of the stud terminals marked A or B.
2. Connect the load to the other stud terminal marked B or A.
3. Torque the high current terminal stud nuts to 140 in-lbs (15.5 N•m) maximum.

NOTE: If switching an inverter, windlass, bow thruster, etc., the circuit wires must have circuit protection to comply with ABYC guidelines. Wires used for engine starting do not required circuit protection.

Control Circuit Connections (wires contained in the wire harness)

NOTE: The Remote Battery Switch/Solenoid Switch is designed to be controlled by a momentary SPDT switch, or two momentary push button switches. Use 16 AWG wire for the Control Circuit.

To connect DC power to the Remote Battery Switch/Solenoid Switch Control Circuit:

1. Connect the red wire through a 10A (min) circuit protection device to DC+. The power source should be a direct connection to the battery.
2. Connect the black wire to DC ground.

To connect a momentary SPDT Control Switch: (sold separately)

1. Connect the common load terminal of the Control Switch through a 2A (min) circuit protection device to DC+. Use a 24-hour power source (connected directly to the battery.)
2. Connect the brown wire to the CLOSE side of the Control Switch.
3. Connect the orange wire to the OPEN side of the Control Switch.

Optional Remote Indicator Connection: (sold separately)

Use Blue Sea Systems LED 8033 (amber), 8171 (red), or 8172 (green). Install in a convenient location close to Control Switch.

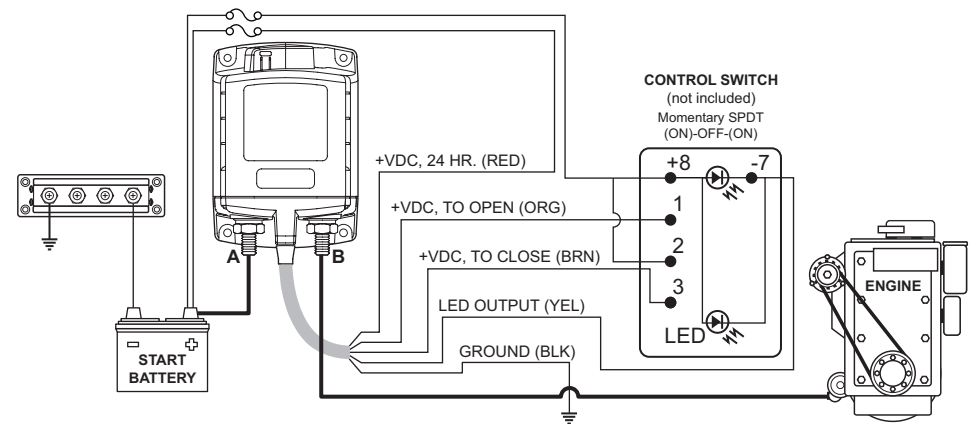
To connect a remote LED indicator:

1. Connect the red wire of the LED to a circuit protected positive source.
2. Connect the yellow wire of the LED to the yellow wire of the Remote Battery Switch/Solenoid Switch Tinned Wire Termination (PNs 7700B, 7702B, 7701B, and 7703B) or the LED output of the Deutch DTM Connector Termination (PNs 7700100B, 7702100B, 7701100B, and 7703100B)

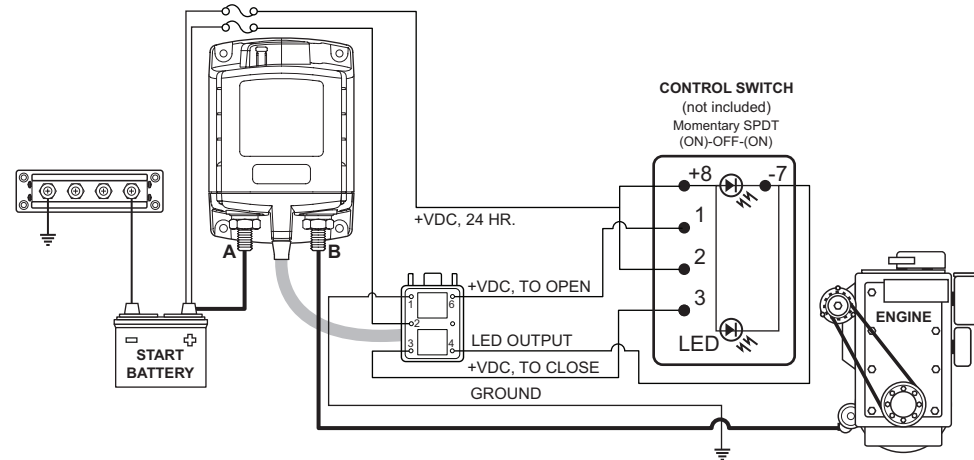
Guarantee

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

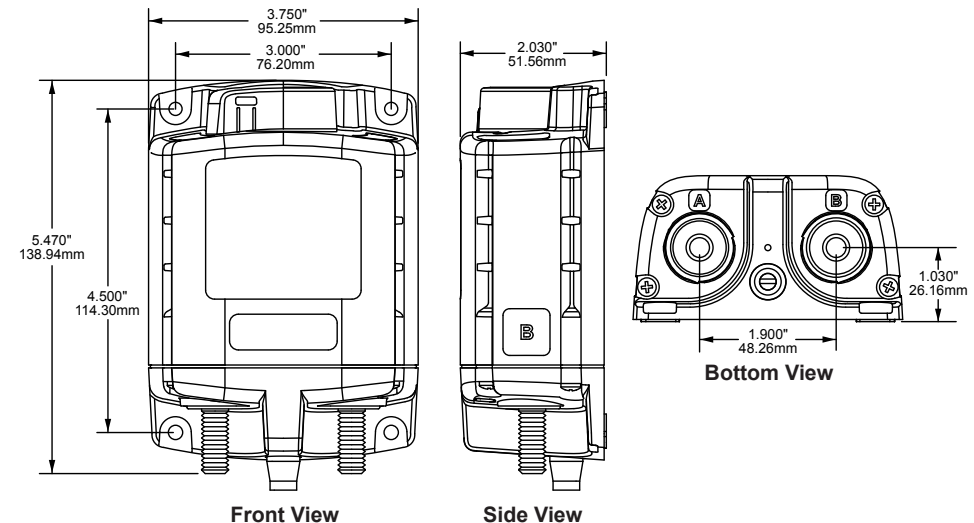
Installation Instructions



Tinned Wire Termination



Deutsch DTM Connector Termination



Front View

Side View

Bottom View