

LECTROTAB

ELECTROMECHANICAL TRIM TAB SYSTEMS

One Touch Leveling Control SLC Series Installation/Operation



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Introduction

The One Touch leveling control system incorporates all the features of the Oval (SETR-61) control in addition to a single touch “All Tabs Up or Down” button. The operation and LED functions are equivalent to the operation of the Oval control, and the One Touch control is designed as a direct replacement. The One Touch control is potted and sealed to be waterproof. Actuators connect directly to the keypad, so no power module box is necessary.

The Lectrotab One Touch control (SLC) design advantages and features include:

- Convenient momentary “One Touch” button to raise or lower tabs
- Improved fuel efficiency and faster speeds
- Single or dual actuator tab operation
- Single station operation or dual station operation with an additional keypad
- Automatic deployment to last tab position when ignition key switch is turned off and back on (see program chart)
- Direct actuator connection to display
- Automatic tab retraction when connected to accessory switch or ignition key switch
- Direct replacement for Oval control and seamless upgrade from rocker switch
- Completely sealed and waterproof display
- Automatic dimming of display LED indicators in darkness and brighten in sun light
- Operates on 12 or 24 Volts DC
- 2 Year Warranty

Safety

- Failure to follow all instructions listed in this manual may result in equipment failure or serious injury.
- If using trim tabs for the first time, follow the Operation section of this manual to familiarize yourself with the feel and response of your trim tab system.
- Never deploy tabs in a following sea. Keep tabs fully retracted in a following sea.
- Never deploy tabs quickly at high speeds or above cruising speeds. This may cause the boat to turn quickly and become unstable and difficult to control.
- Stay alert, watch what you are doing and use common sense when operating your trim tab system.
- Do not use the trim tab system when under the influence of drugs, alcohol or medication. A moment of inattention while operating the trim tab system may result in serious injury.

How Do Trim Tabs Work

Boaters will enjoy many performance and efficiency benefits by adding Lectrotab trim tabs. Lectrotab trim tabs improve fuel efficiency, increase boat speed, accelerate shallow water planing, eliminate porpoising, and enhance the overall boating experience with a more comfortable ride.

- **Improved Fuel Efficiency and Faster Speeds**

Most importantly, the trim tabs may be adjusted to optimize speed and fuel efficiency. Typically, the bow rides high causing the stern to drag in the water at cruising or lower speeds. A boat owner will attempt to correct this problem by trimming his outdrive down to bring the bow down. This adjustment is extremely inefficient and reduces boat speed and increases fuel consumption, because trimming of the outdrive pushes water down to allow the transom to rise and bow to lower. In this scenario, the outdrive is not only propelling the boat forward but it is also pushing the bow down. The most efficient way to operate the boat is to adjust the tabs to maximize boat speed and level. The outdrive may then be adjusted so the prop shaft is parallel to the water to maximize the thrust to push the boat forward.

- **Faster Planing**

For shallow water starts, trim tabs allow the boat to get up on plane faster. Faster planing can be accomplished by lowering the tabs to the fully deployed position. As the boat achieves plane, trim tabs may be raised until the boat is level.

- **Porpoising**

Occasionally, an uneven load distribution or certain speeds will cause the boat to “porpoise”. This problem can easily be corrected by deploying both trim tabs simultaneously a few degrees until the “porpoising” stops.

- **Boat Leveling**

Every boat owner has experienced passengers or equipment moved to one side of the boat, which causes the boat to lean to one side and leads to difficulty in handling the boat as well as an uncomfortable ride. Trim tabs give the ability to correct this problem by deploying the tab on the same side as the boat is leaning towards which levels the boat for a more comfortable ride.

- **Head Sea**

Rough sea conditions can also be better managed with trim tabs. Typically in a head sea, the boat speed must be reduced causing the bow to ride high. The waves will pound and beat the boat bottom for an extremely uncomfortable and slow ride. Trim tabs can be deployed to level the boat out and allow the hull to cut through the waves for a smoother and more efficient ride.

- **A Beam Sea or Wind**

A beam sea or wind can lead to a wet ride. To greatly reduce or eliminate the spray caused by waves or wind hitting the boat side, the windward side trim tab may be deployed to raise the windward side of the boat. Also retracting the leeward trim tab side may help.

Display Keypad Installation & Wiring SLC-11

(For dual actuator tabs, connect actuators from same tab in parallel)

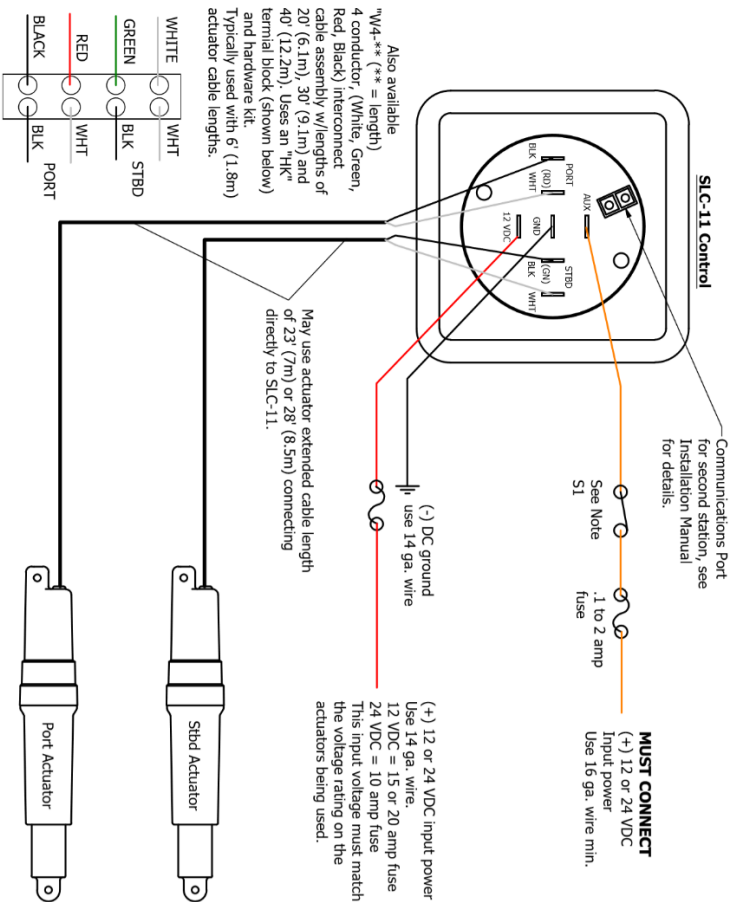
Mounting Display Keypad:

1. Locate the display keypad at the helm where it is convenient to access and view the LED indicators and a flat level surface.
2. Drill one 2.25" (57mm) to 2.5" (64mm) hole as shown on page 7 for mounting display.
3. Apply a bead of silicone sealant around the underside of the display where the rubber overlay meets the black potting material. This will prevent water from entering under the display and reaching the wiring connections.
4. Mount the display with the aluminum plate, washers and nuts provided. Do not overtighten the nuts.

Wiring Display Keypad:

1. Refer to wiring diagram as shown on page 7 for the SLC-11 wiring connections.
2. The red (+12vdc or +24vdc) wire from the boat's fuse panel and black battery negative wires should be a minimum size of 14 AWG (2.5mm²).
3. **Important:** DC voltage source connected to SLC-11 keypad must match actuator voltage (first letter in actuator serial A, C or S =12vdc, B or D = 24vdc).
4. The AUX terminal must be connected to ignition key run position or accessory switch to automatically retract the tabs when key is switched to OFF and turn on the display when key is switched to ON.
5. For dual station connections, a second SLC-11 keypad and two SR serial communication cable/plug assemblies are required. See wiring diagram on page 7 for SR plug connection point. SR cable/plug assembly comes in 12" and spliced to a 2-conductor 20 AWG cable or SR-**(** = length in feet) for longer lengths.
6. For dual actuator per tab installations, connect both actuator wires from each tab in parallel and follow the wiring diagram on page 7. Connect each actuator white wire to white wire and black wire to black wire from the same tab to the back of the keypad.

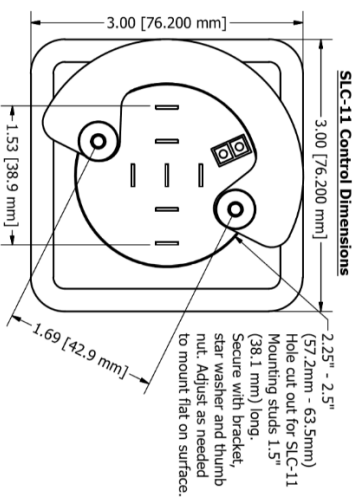
"SLC-11" Control Installation/Wiring Diagram



Note for S1):

SLC-11 AUX terminal functions:

- 1) Switch (S1) opens, 12 VDC power to initiate a 10 second tab retract and SLC-11 control will shut down.
- 2) The AUX terminal is typically connected to a +12 VDC source that is shut down after docking to allow tabs to retract, recalibrate and prevent damage. The AUX terminal may be connected to ignition key accessory terminal or an accessory switch.

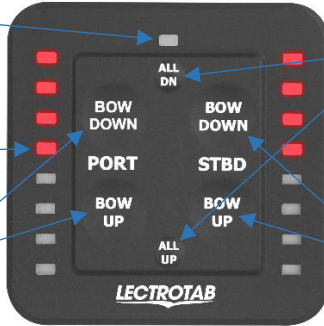


Verify Display Settings and Operation SLC-11

Photo sensor to automatically brighten and dim LEDs

LEDs indicate tab position

Adjust Port side up or down



All Down and All Up buttons adjust both tabs with one touch of the button. Press button again to stop tab deployment or retraction.

Adjust Starboard side up or down

SLC-11 Display

Set Actuator Deployment Time:

Follow the programming chart and instructions on page 9 and 10 to program keypad to match the actuator deployment time (first letter in actuator serial A or B = 8 seconds (factory default), C or D = 4 seconds and S = 6 seconds).

Verify Connection and Operation:

1. Momentarily press the "ALL DN" (All Down) button (top button), and both actuators/tabs deploy simultaneously. Press button again to stop deployment or allow to fully deploy.
2. Momentarily press the "ALL UP" button (bottom button), and both actuators/tabs will retract simultaneously. Press button again to stop retraction or allow full retraction.
3. If the tab or tabs are moving in the opposite direction as described, switch or reverse the two actuator wires on the back of the keypad for the tab that moves in the wrong direction (for example switch black and red wires at port terminals for port actuator).
4. Press and hold the starboard "STBD Bow Down" button (right button), and the port actuator/tab will deploy and release when fully deployed. Press and hold the "STBD Bow Up" button to retract the port tab and release when fully retracted.
5. Press and hold the "Port Bow Down" button (left button), and the starboard actuator/tab will deploy and release when fully deployed. Press and hold the "Port Bow Up" to retract the starboard tab and release when fully retracted.
6. If the wrong tab is moving as described in step 4 and 5, exchange the port and starboard wires on the back of the keypad and repeat the testing process.

LED Position Indicators:

When retracting actuators/tabs, the top LED indicators will flash and then remain lit to show tabs are fully retracted. The LED indicators show approximate tab position based on time. A standard “A” series actuator takes approximately 8 seconds to fully deploy or retract.

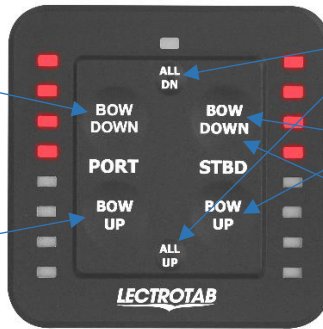
Automatic Tab Retraction:

There are a couple options for automatically retracting the trim tabs. You may connect the accessory or run terminal of the ignition key switch to “AUX” terminal on keypad. When the ignition key switch is turned off, the tabs will retract automatically, and the display will turn off. Another option is to connect the “AUX” terminal to one side of an accessory switch and the other to +12vdc (see wiring diagram), so the tabs will only retract when this switch is turned off.

Programming SLC-11

Actuator Timing: Press and hold Port Bow Down for a few seconds then turn the key switch on and release button to enter program mode for actuator timing.

Exit Program: Press and hold for a few seconds the Port Bow Up button to exit program mode and save new setting.



Auto Tab Disable: Press and hold top and bottom buttons simultaneously for a few seconds to enter program mode.

Press and release right buttons to change Setting Value.

Swap LEDs: Press and hold STBD Bow UP for a few seconds then turn the key switch on and release button to enter program mode for swapping LED movement to same side as button pressed.

SLC-11 Display

Enter, Adjust and Exit Program Mode:

- Before entering program mode, 12vdc or 24vdc must be applied to SLC terminals +12vdc and battery negative (see wiring) and AUX 12vdc must be off (ignition key switch or accessory switch off).
- Press and hold button on keypad for 4 seconds or longer in “Enter” column on the programming chart, then switch the ignition key switch or accessory switch to on. Release the button.
- Follow the instructions under “Change Setting” in the program chart to change the current setting.
- Press and hold the “Port Bow Up” button for a few seconds to save setting and exit program mode.

Programming Chart

Program Mode Sequence						
Setting	Enter	Change Setting	Exit and Save	Range	Default	Program Details
Auto Retract Previous Position	Press Port Bow Up 4 sec. or longer	Press/Release STBD Bow Down/Up button	Press and hold Port Bow Up for 4 sec. or longer	Standard or Remember last position	Standard	8 LEDs = Standard Auto Retract 1 LED = Return to last tab position before key switch off
Actuator Time	Press Port Bow Down 4 sec. or longer	Press and hold STBD Bow Down/Up button	Press and hold Port Bow Up for 4 sec. or longer	4 to 12 seconds	8 seconds	8 LEDs = 8 seconds 6 LEDs = 6 seconds 4 LEDs = 4 seconds
Swap LED Tracking	Press STBD Bow Down 4 sec. or longer	Press/Release STBD Bow Down/Up button	Press and hold Port Bow Up for 4 sec. or longer	LEDs track opposite side or same side as button press	Opposite	1 LED = LEDs track opposite of button press 8 LEDs = LEDs track same side as button press
Disable Auto Tab Retraction	Press All Up and All DN for 4 sec. or longer	Press/Release STBD Bow Down/Up button	Press and hold Port Bow Up for 4 sec. or longer	Enable or Disable	Enable	1 LED = Auto tab retract enabled 8 LEDs = Auto tab retract disabled (AUX connection is not required for this program mode.)

Automatic Tab Retraction to Previous Position:

When the accessory switch or ignition key switch (connected to keypad “AUX” terminal) is turned off, the tabs will automatically retract. When the accessory switch or ignition key switch is turned back on, the tabs will adjust to the last known position before key switch was turned off. Follow the instructions on page 9 and 10 to program the keypad for this feature (Auto Retract Previous Position). Turning main battery power off will erase previous tab position and adjust to new position on next trip.

Actuator Time:

Follow the programming chart and instructions on page 9 and 10 to program keypad to match the actuator deployment/retract time (first letter in actuator serial A or B = 8 seconds (factory default), C or D = 4 seconds and S = 6 seconds).

Swap LED Tracking:

Refer to program instructions on page 9 and 10 for “Swap LED Tracking” to move the LED indicators to the same side as the button being pressed for Bow Up/Down. The default setting shows the “tab position” on the LED indicators (i.e. pressing STBD button shows port tab being deployed and LEDs lit on left side of keypad). Swapping the LED indicators to same side as button being pressed shows what side of the vessel is going down or up. Program this to customer preference.

Disable Automatic Tab Retraction:

Refer to program instructions on page 9 and 10 for “Disable Auto Tab Retraction” to disable auto tab retraction. Press and hold the “All DN” and “All UP” buttons simultaneously for a few seconds to enter the mode and follow the instructions on page 10 of the programming chart. AUX terminal connection is not necessary for this program mode.

SLC-11 Troubleshooting

LEDs do not light:

- 1) Test for +12vdc (or 24vdc) on back of SLC keypad at red “+” sticker terminal and middle terminal (battery negative).
- 2) Turn on ignition key switch or accessory switch (see Auto Tab Retraction p. 9) which should show 12 or 24vdc on “AUX” terminal when switched on. The “AUX” terminal on the back of keypad must be connected to the ignition key switch or accessory switch. Turn key switch or accessory switch to ON and make sure battery selector switch is turned on to light LEDs on keypad.

Specifications

Model Number	Display Color	Number of Stations/Actuators	Overall Width	Overall Height/ Thickness	Mounting Hole Cutout (Diameter)	DC Voltage	Fuse Size Power Input (1 Actuator per Tab)	Fuse Size AUX Terminal (MUST CONNECT)
SLC-11	Black	1 or 2 Stations/ 1 or 2 Actuators/tab	3.0"/ 77mm	3.0"(77mm)/ .437"(11mm)	2.25" (57mm) to 2.5" (64mm)	12/24	12vdc = 15 or 20 amp 24vdc = 10amp	1 to 2 amp