

USAGE AND INSTALLATION GUIDE FOR MICRO-ROTARY ENCODER LIMIT SWITCH

Description:

The Micro-Rotary Limit Switch is designed to provide a simple means to override water features such as water falls and fountains to prevent the flow of water onto the cover when the cover is deployed over the pool.

Specifications:

Control Capabilities:

3-Way Valve, Motor Relay, Pool Controller

Maximum Switching Power: 60W, 125VA

Maximum Switching Voltage: 220VDC, 250VAC

Maximum Switching Current: 2 AMPS

30' 18/4 AWG 300V Water/Sunlight Resistant,
 Direct Burial, Indoor/Outdoor Wire Included

Powered by two (2) 10 year Lithium
 Primary AA Batteries

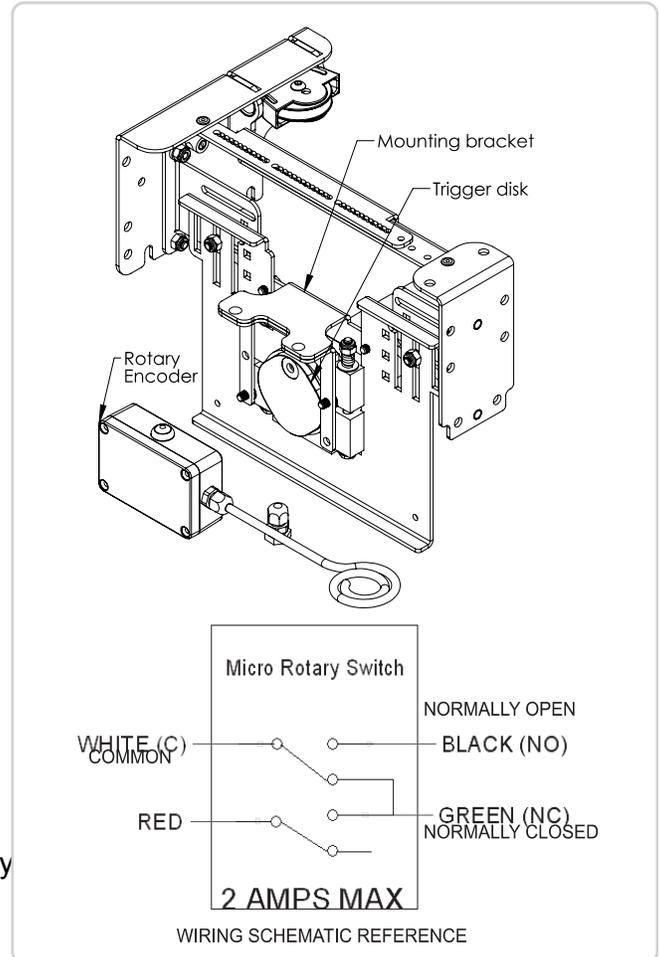
General Operation:

The Micro-Rotary Limit Switch is positioned on the non-motor side of the cover roll-up tube. A trigger disk is inserted onto the roll-up tube non-motor end and the Micro-Rotary Limit Switch is attached to a bracket which attaches to the non-motor mechanism. The Micro-Rotary Limit Switch detects the rotation of the cover to determine if the cover's leading edge position is behind or in front of the home position. When the cover moves behind the home position, the Micro-Rotary Limit Switch will activate a switch to turn on the water feature being interrupted or alert the pool controller that the cover has been opened.

The rotary limit switch is an accurate device; however, due to different ways that a cover can roll up on the roll-up tube exact positioning of the cover can vary up to 1 foot. The unit is internally powered by a set of long life AA lithium batteries and should last for over 10 years. When setting the home position there is only a single flash from the LED or no flash from the LED or the switch does not operate, replacement of the internal batteries may be required.

Wiring the Micro-Rotary Encoder Limit Switch:

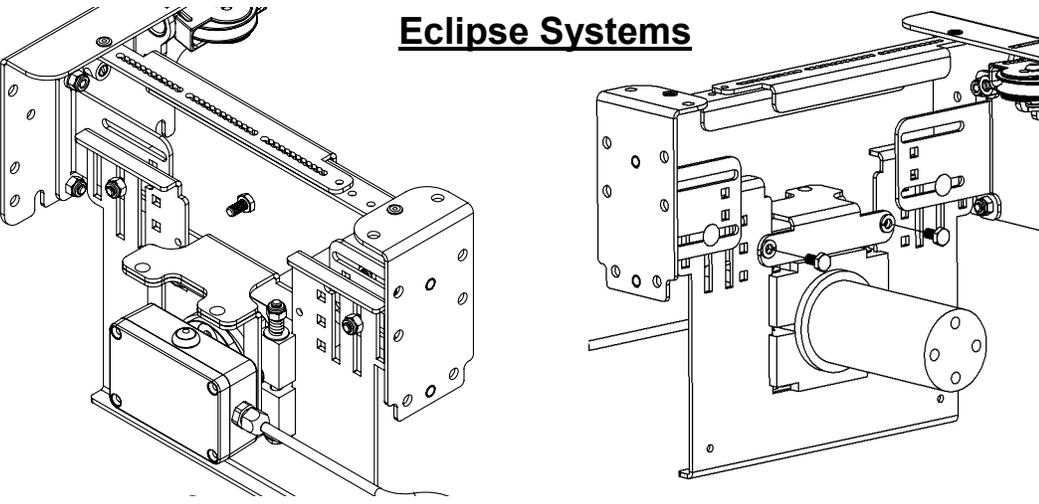
The Micro-Rotary Limit Switch comes with 30 feet of outdoor rated 18AWG 4 conductor wire additional wire can be run as needed according to your local electric code. Do not run Low Voltage and High Voltage lines in the same conduit. The unit is configured to support one of the following: a 3 way valve, relay interrupt or feedback to a compatible pool controller. An example of each is shown on page 3.



Installing the Micro-Rotary Encoder Limit Switch:

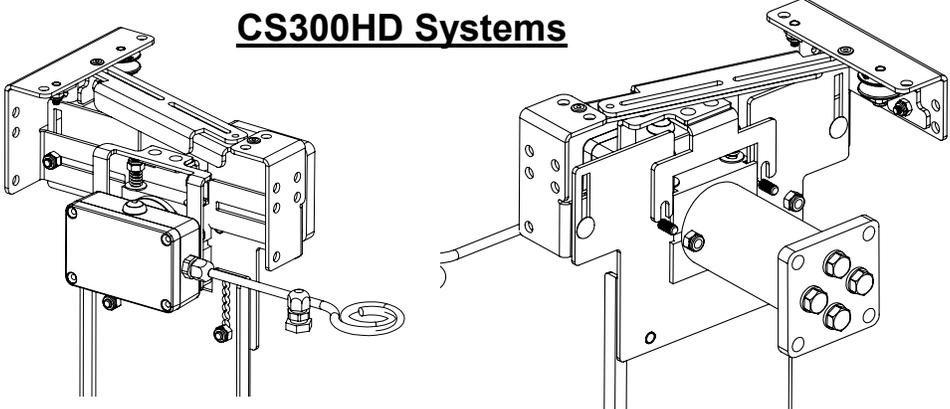
1. Insert the trigger disc into the non-motor end access hole.
2. Follow instructions below depending on application.

Eclipse Systems



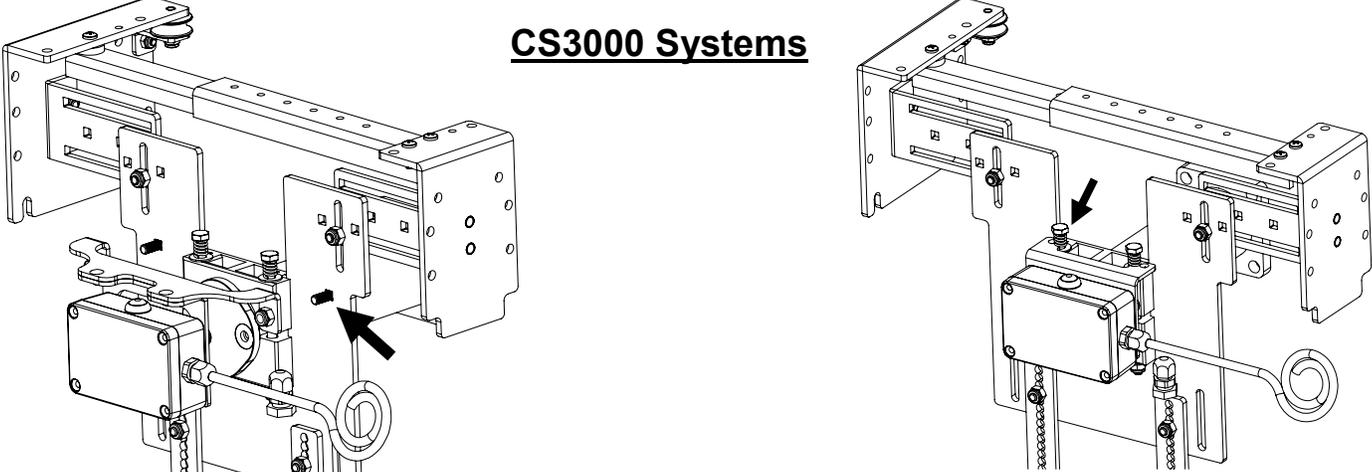
- 1) Remove Brake Retainer
- 2) Install mounting bracket in place of brake retainer using existing hardware

CS300HD Systems



- 1) Remove Brake Retainer
- 2) Install mounting bracket in place of brake retainer using existing hardware

CS3000 Systems



New Installations:
Mount Encoder with bracket to mechanism using mounting holes and supplied hardware

Legacy Retrofits:
For applications without mounting holes, mount legacy bracket (M2035) to brake retainer using the brake retainer bolts

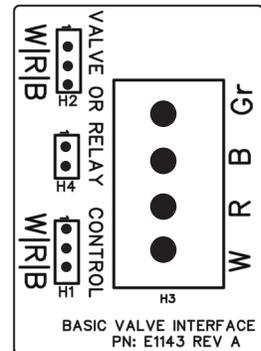
Connecting to a Pool Controller:

On systems with an auxiliary input, connect the White (C) and Black (NO) wires of the rotary encoder to the pool controller auxiliary input and configure the features you require to interlock with the rotary encoder. Review pool controller instructions for further information. Contact Latham for any technical difficulties.

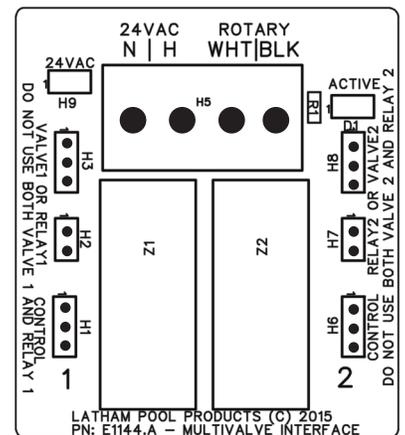
To connect to a system that does not have an auxiliary input circuit. Utilize the provided Basic Interface Board (E1143) to control up to one Valve or Pump Relay or order the Multivalve Interface Board (E1144) to control more than one unit. Each E1144 Board can control two features. (2 Valves, 2 Relays, or 1 Valve and 1 Relay) additional units can be chained together to control the desired number of features.

To Configure a Feature

1. Disconnect the Valve or Relay connector from the pool controller and plug the connector into the “Control” or “Relay” connector on the Interface Board.
2. Select the cable labeled VALVE to control a Valve or select the cable labeled RELAY to control a Pump Relay.
3. Plug the 3 position connector of the cable into the 3 position connector labeled “Valve” on the Interface Board.
4. Plug the other end into the location where the original Valve or Relay connector was located.
5. Wire the rotary encoder wires to the 4 screw terminals White to W, Red to R, Black to B and Green to Gr. (If controlling a Pump Relay only the White and Black wires are required.)



For multivalve interface use the optional E1144 Multivalve Interface board and follow modified instruction sheet. Connect the White Rotary Encoder Wire to the WHT terminal on the E1144 board and the Black Rotary Encoder Wire to the BLK terminal on the E1144 board. Connect the 24VAC power to a 24VAC power source in the pool control box. For convenience a plug in adaptor is setup to plug into an open valve port if available. When the circuit is active, a Red LED will light up on the board.



Note on valve actuators: Valves can take up to 30 seconds to fully open or fully close. Simultaneously changing a valve state and operating the auto cover within the 30 second window can lead to the valve not functioning correctly and potentially building up water on the cover. Not following these instructions can result in costly repairs to the auto cover system.

Setting the Home Position:

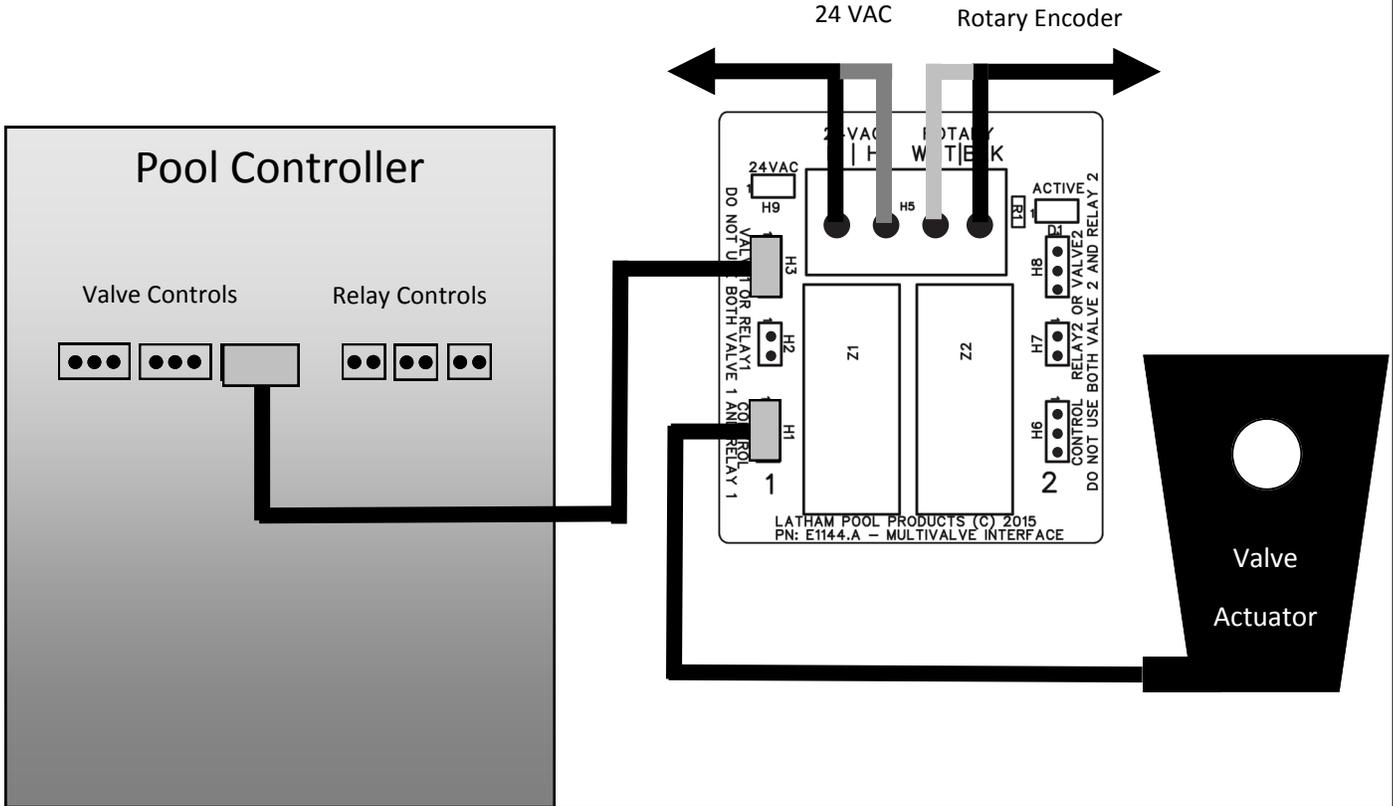
After installing the switch do the following.

1. **Position the cover where you want the feature to turn on.** (Typically about a foot in front of the cover open position)
2. **Press the button located on the top of the Micro-Rotary Limit Switch.** This sets the “Home” position and a LED inside of the button will blink 3 times.
3. **Operate the cover in the closing direction for at least 5 feet.** This sets the rotational direction for closing the cover.
4. Test to make sure the feature is turning off and on by moving the cover to the desired open position and seeing if feature has been actuated.
5. If steps 1 through 4 did not provide expected results repeat the configuration steps. Pressing the “Home” button again will reset the home position to the present location.

Modified Instructions for the E1144 Multivalve Interface

For Valve Actuator:

Connect the valve actuator to the header labeled "Control" on the E1144. Connect the desired valve port on the pool controller to the header labeled "Valve" on the E1144.



For Relay:

Connect the relay to the header labeled "Relay" on the E1144. Connect the desired relay port on the pool controller to the header labeled "Relay" on the E1144.

