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**Lo Pro Series**  
**LIMIT SWITCH**  
**Installation & Operation Manual**  
**Page 1 of 4**

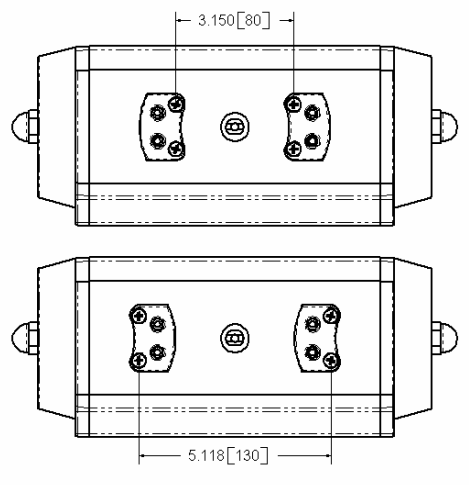
**Introduction:**

The ControLink **LoPro** Series is available in two basic styles. The L1 Series has 18" flying leads while the L2 Series is provided with an integral terminal strip and junction box. In many instances the L2 Series can also be utilized to serve as a junction box for the actuator solenoid valve. Both the L1 series and the L2 series can be provided with a low profile position indicator or a high profile 3D position indicator. All **LoPro** units utilize hermetically sealed switches and are the ideal choice for harsh environments.

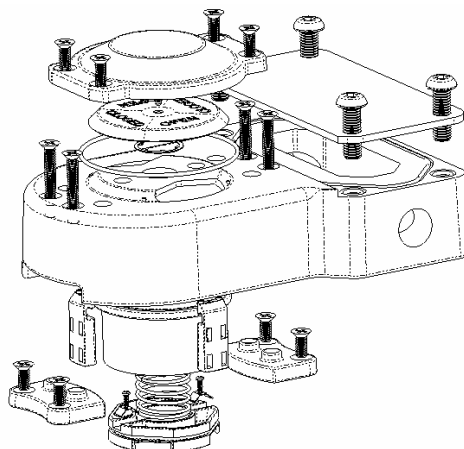


**Mounting Instructions:**

1. The LoPro Series easily mounts to the majority of actuators that meet NAMUR ISO 5211 dimension standards, without the need of a secondary mounting kit. Maximum stem diameter is 1.75" (45mm) and maximum stem height is .787" (20mm). Optional adaptors are available for actuators that exceed these maximum dimensions.
2. The adapter feet are supplied complete with four 10-24 fasteners and four M5 fasteners. Select the appropriate fasteners for the actuator that the switch is being mounted on. Utilize the four o-rings to make the fasteners captive to the mounting feet (optional).
3. Mount the adapter feet to either the 30mm x 80mm or 30mm x 130mm standard NAMUR mounting pad on the top of the actuator. Orient the feet so that the raised threaded bosses form a 0.75" x 4.125" pattern concentrically around the pinion and fit up inside the switch housing.



4. Mount switch housing on adaptor feet such that the bottom of the switch housing rests on the top of the actuator.
5. Insert four M5 x 40mm flat head Phillips mounting screws into the top of the switch housing and engage the adaptor feet. Be sure to start engagement of each screw before completely tightening any individual screw. Screws should be tightened in an alternating pattern until all are tight to ensure a flush, square fit.



#### **Drive Shaft Engagement:**

1. Remove the clear plastic indicator cover to expose the red/green position indicator.
2. Remove the position indicator to expose the white colored rotor and blue colored switch adjusting mechanism.
3. Turn the rotor by hand until the 4mm bottom drive tang drops firmly into the NAMUR drive slot on the actuator stem. Make sure it is fully engaged.
4. Use a #1 Phillips screwdriver to lock the vertical adjustment of the input shaft in place with the two screws that are located inside the .22" (.56mm) holes on the top of the rotor. Step 4 should not be necessary again, unless the switch is removed and mounted on another actuator.



**Switch Adjustment:**

1. With indicator and cover removed, rotate actuator to the full clockwise position.
2. Using a VOM or a continuity light attached to the normally open contact of the CW leads of the L1 style or the terminals of the L2 style.
3. Adjust the position of the magnet holder until the circuit has been completed. Adjustment is accomplished by inserting the blade of a small (0 or 1) screwdriver, in the slot on top of the blue colored magnet holder. Push down on the magnet holder and slide it along the rotor until the CW switch is activated, then release. By pulling the screwdriver out of the slot, the magnet holder will automatically lock into place on the splines around the diameter of the rotor.
4. The magnet holder is now held in place with spring force and the locking splines. An optional lockdown screw can be utilized for locking the blue magnet holder into place.
5. Remove VOM or continuity tester from the CW switch and place it on the CCW leads of L1 style or terminals of the L2 style.
6. Rotate actuator to full counter-clockwise position then repeat step 3 using the CCW leads.

**Indicator Setting:**

1. When utilizing the 3D indicator option, remove the indicator cover and rotate the actuator to the full CW position. Line up the 3D closed indicator and push down to install the indicator on the splined drive of the rotor.
2. If the low profile flat indicator is provided, loosen center screw and rotate the rotor into position, re-attach the center screw and tighten.
3. Replace indicator cover and fasten cover screws. Check to ensure that seal is properly located in seal groove.



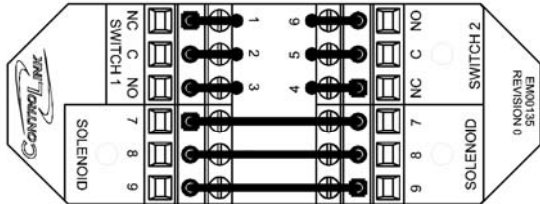
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**Page 4 of 4**

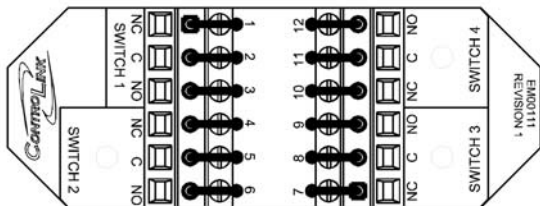
## Wiring Information

### L2 Series:

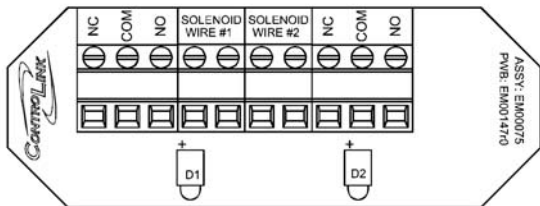
Each switch is identified with a terminal point and can accept up to 12AWG wire.



TWO SWITCHES WITH SOLENOID PASS-THRU



FOUR SWITCHES



TWO SWITCHES WITH LED INDICATORS

### L1 Series:

Each switch is identified with the coloring scheme shown below.

<u>Switch Type</u>	<u>Wire Color</u>	<u>Contact</u>
<u>10</u>	Red Black	<u>Common</u> <u>Normally Open</u>
11	Red Black	Common Normally Open
12	Red White Black	Normally Closed Common Normally Open
<u>13</u>	Red Black	<u>Common</u> <u>Normally Open</u>
14	Red White Black	<u>Normally Closed</u> <u>Common</u> <u>Normally Open</u>
<u>16</u>	<u>SWITCH #1</u> Red White Black	<u>Normally Closed</u> <u>Common</u> <u>Normally Open</u>
	<u>SWITCH #2</u> Red White Black	<u>Normally Closed</u> <u>Common</u> <u>Normally Open</u>
Optional 7' pre-wired cable w/gland	SWITCH #1 Black White	Normally Open Common
	SWITCH #2 Red Green	Normally Open Common

### SWITCH TYPE

- 10 – Proximity SPST
- 11 – Proximity SPST (with green/red LED's)
- 12 – Proximity SPDT (with green/red LED's)
- 13 – Proximity SPST, Bifurcated
- 14 – Proximity SPDT (standard)
- 16 – Proximity DPDT

### Notes:

- 1) For complete details regarding switch ratings refer to PS00031.
- 2) Warning: When utilizing non-metallic conduit, the wires must be grounded prior to pulling through conduit. This will eliminate the possibility of contact damage due to static discharge.
- 3) In Division 2 hazardous areas a lead seal is not required. In Division 1 areas a lead seal must be located within 18".

### RATING (see notes)

- 0.25amp @ 120VAC, 0.7amp @ 42VAC, resistive
- 0.25amp @ 120VAC, 0.7amp @ 42VAC, resistive, (UL pending)
- 0.25amp @ 120VAC, 0.416amp @ 48VDC, resistive, (UL pending)
- 1.5amp @ 120VAC, 0.55amp @ 24VDC, resistive/inductive
- 0.25amp @ 120VAC, 0.416amp @ 48VDC, resistive
- 0.25amp @ 120VAC, 0.416amp @ 48VDC, resistive