

### Installation & Maintenance Manual

### WARNING

- 1. Only suitably trained personnel shall carry out installation in accordance with applicable code of practice.
- 2. To avoid serious or fatal personal injury or major property damage, read and follow all the instructions in this manual.
- 3. Hazardous voltage, disconnect all power before servicing equipment.
- 4. Do not exceed the electrical rating stated on label.
- 5. Conduit plugs supplied are for transit purpose only, remove them and install conduit or plugs suitable for protection required.
- 6. Save this instruction.
- 7. To maintain the NEMA rating, the use of proper wiring methods per NEC and local codes is required.
- 8. To ensure proper protection any unused conduit entry must be closed with appropriate supplied conduit plug.
- 9. Conduit must be supplied from beneath, or overhead runs must have a "Drip Loop" to prevent condensation draining into switch housing.

# Hazardous Areas: Class I, Div 1, Groups C, D; Class II, Div 1, Groups E, F, G; Class I, Div2, Groups A, B, C, D; Class II, Div 2, Groups F, G

▲ For switch options 1J, 1A, 1C, 1D, 1F, 7J, 7A, 7C, N1, N3 when placed in CLASS I, DIVISION 2, GROUPS A, B, C and D or CLASS II, DIVISION 2 GROUP F and G consider the following:

NO LEAD SEAL REQUIRED; ALL WIRING OF THESE DEVICES MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 501.4(B) FOR CLASS I, DIVISION 2. WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.

WARNING - EXPLOSION HAZARD - DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS. SUITABLE FOR TEMPERATURE FROM -40°F(-40°C) TO 176°F (80°C).

# INSTALLATION

- 1. Attach proper mounting bracket (1) to the switch box housing (4) using four M6x8 socket head cap screws (2) provided.
- 2. Align switch box shaft to top of actuator shaft and engage it.
- 3. Attach bracket to actuator using hardware (3) provided (finger tight only).
- 4. By actuating package the switch and actuator will self-align.
- 5. Tighten bracket to top of actuator.

# **SWITCH ADJUSTMENT (Figure 1)**

- 1. Loosen switch box cover screws (8) and remove cover (7).
- 2. Rotate actuator to full counter-clockwise position.
- 3. Lift up bottom cam (5a) and turn until switch is activated and then release. Engage cam back onto the splined retainer. Spring will maintain cam engagement.
- 4. Rotate actuator to full clockwise position.
- 5. Push down top cam (5b) and turn until switch is activated and then release. Engage cam back onto the splined retainer. Spring will maintain cam engagement.
- 6. Place cover (7) on switch box and tighten. Take care to ensure that cover gasket seal is properly located in seal groove.





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EX SERIES Limit Switch



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#### **ELECTRICAL WIRING (Figure 2 & 3)**

- 1. Remove switch box cover (see switch adjustment section 1).
- 2. Remove protection plugs from conduit entries and install conduit or plugs suitable for type of protection required.

**WARNING:** To maintain the NEMA 4x, 7 & 9 rating, the use of proper wiring methods per NEC and local codes is required.

**3.** Engage wires in terminal strip (14) using a small screwdriver (1/8" blade).

#### **3D INDICATOR SETTING**

- 1. Remove four screws (13) and remove 3D indicator cover (12).
- 2. Remove screw (10) and lift up 3D indicator from splined retainer.
- 3. Set 3D indicator (9) on splined retainer according to valve position.
- 4. Attach 3D indicator with (10) screw.
- 5. Replace 3D indicator cover (12) and fasten with cover screws (13). Check to ensure that seal (11) is properly located in seal groove



Note: Conduit plugs supplied with the switch box are for transit purposes only. To ensure NEMA 4x, 7 & 9 protection any unused conduit entry must be closed with appropriate conduit plug.

A-T Controls product, when properly selected, is designed to perform its intended function safely during its useful life. However, the purchaser or user of A-T Controls products should be aware that A-T Controls products might be used in numerous applications under a wide variety of industrial service conditions. Although A-T Controls can provide general guidelines, it cannot provide specific data and warnings for all possible applications. The purchaser / user must therefore assume the ultimate responsibility for the proper sizing and selection, installation, operation, and maintenance of A-T Controls products. The user should read and understand the installation operation maintenance (IOM) instructions included with the product, and train its employees and contractors in the safe use of A-T Controls products in connection with the specific application.

While the information and specifications contained in this literature are believed to be accurate, they are supplied for informative purposes only. Because A-T Controls is continually improving and upgrading its product design, the specifications, dimensions and information contained in this literature are subject to change without notice. Should any question arise concerning these specifications, the purchaser/user should contact A-T Controls.

For product specifications go to <u>http://download.a-tcontrols.com/</u>

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