

UltraSwitch™ XL, GL, PL

Description

Automax UltraSwitch™ limit switch enclosures provide local and remote position indication for automated valves. They generally feature a Pharos™ visual indicator with “red=closed” and “green=open” for intuitive local position determination. The UltraSwitch™ is available with a number of limit switch options for remote indication in a variety of electrical applications. They may also be used as a junction box for direct installation of solenoid valves.

Installation

UltraSwitches may be installed with a variety of mounting hardware. For best results, specify the NAMUR shaft option and NAMUR mounting hardware (when possible). These options allow direct coupling to actuators without couplings, reducing deadband.

Simply bolt bracket to actuator and UltraSwitch™ to bracket, leaving bolts finger tight. For NAMUR applications the UltraSwitch™ shaft features an integral alignment pin. This pin must engage the tapped hole in your actuator shaft. For non-NAMUR applications, make sure to properly install a coupler between UltraSwitch™ and actuator. Once the UltraSwitch™ is installed with fasteners loosely tightened, stroke your actuator two or three times to align the bracket. Then tighten all fasteners.

Special Hazardous Location Instructions

UltraSwitch™ XL Series enclosures are explosion proof which allows them to be used in most Division 1 and 2 hazardous locations. You must install a conduit sealing fitting within 18 inches of the enclosure to meet NEC regulations. The AXL series does feature internal potting wells. Units provided with factory-sealed leads do not require external sealing fittings.

UltraSwitch™ PL and GL series enclosures are designed to meet NEMA 4 specifications, but may be used in Division 2 hazardous locations when supplied with hermetically sealed magnetic proximity switches. For Division 2 applications utilizing hermetically sealed switches, conduit seals are not required. See nameplate information to verify hazardous location suitability.

Wiring Instructions

UltraSwitch™ enclosures feature prewired switches. All user connections are made at a numbered terminal strip. A wiring diagram is located inside the cover and indicates which terminal numbers correspond to switch contacts: normally open, normally closed common, etc. Simply follow the wiring diagram and electric code to connect switches to your system. *Note: for all magnetically tripped proximity switches, the top switch (top and third switches for 4-switch versions) should only be used to indicate the clockwise position: the bottom switch (second and fourth switches for 4-switch versions) should only be used to indicate the counterclockwise position. Any deviation from these settings may result in erratic indication.*

Solenoids may also be wired through the UltraSwitch™ enclosure. At least two auxiliary terminals are included as standard. A ground screw is also included. Simply wire the solenoid to auxiliary terminals, then connect power leads to the opposite terminal side. Be sure to properly ground the solenoid at provided ground terminal. *Note: PL series enclosures are non-metallic: be sure to connect a ground wire to this terminal. When two metal conduits are used with the APL series, an external grounding strap must be used to connect to them.*



UltraSwitch™ XL and PL series enclosures include two 3/4" conduit entries. GL series enclosures include two 1/2" entries. Be sure to follow the National Electric Code regulations for rigid conduit, or cable systems as applicable.

CAUTION: Substitution of components may impair suitability for Zone 2 Increased Safety.

Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.

Cleaning this housing by rubbing should be done in a non-hazardous area.

DEMKO 02 ATEX 130948X

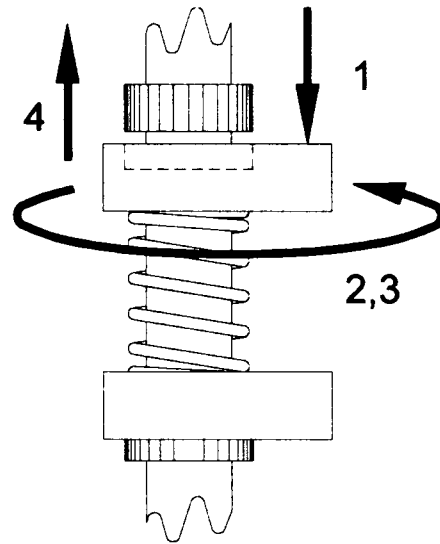
 0518
  II 2 G
 EEx me II T4-T6
 -40°C ≤ Tamb ≤ +55°C, T6
 -40°C ≤ Tamb ≤ +70°C, T5
 -40°C ≤ Tamb ≤ +80°C, T4

Adjusting Limit Switches

UltraSwitch™ enclosures feature quick-set cams which are used to trip the limit switches. These cams are easily adjusted without tools. **Caution: disconnect power before removing cover when installed in hazardous locations.** Remove cover and set aside. Rotate actuator/valve to full clockwise (CW) position. Adjust cam(s) associated with CW as follows:

1. Push or pull cam against spring to disengage it from splines.
2. Rotate cam CW breaking contact with switch (or moving magnet away from switch).
3. Continue rotating cam CW just until switch trips.
4. Release cam and reengage it with splines.

Rotate actuator/valve to full counterclockwise (CCW) position. Adjust cam(s) associated with CCW as described in steps 1 through 4, except rotate cam(s) CCW. *Note: factory setting is top switch = CW (closed), second switch = CCW (open), third switch = CW, and fourth switch = CCW.*



Adjusting Pharos™ Position Indicator

Pharos visual indicators are easily adjusted to match the dome's clear windows to the rotor's red and green quadrants. Simply pry upward under dome "flange" with a large, flat-bladed screwdriver to remove. Make sure o-ring is fully seated against the flat dome sealing surface, not in

the dome retaining groove, as shown. Then install dome in a tilted fashion, engaging one of the dome locking tabs in the dome retaining groove. Make sure dome windows line up with rotor quadrants. Finally, using a rubber mallet, strike dome as shown to engage all locking tabs.

