



Division of A-T Controls Inc.  
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**APL-2 Series  
LIMIT SWITCH**  
**Installation & Operation Manual**  
Page 1 of 2

### Description

Triac APL-2 limit switch enclosures provide local and remote position indication for automated valves. They generally feature a Hi-Viz indicator with “red=closed” and “green=open” for intuitive local position determination. The APL-2 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

APL-2 may be installed with a variety of mounting hardware. For best results, the VDI/VDE 3845 mounting hardware can be included (Please specify). This mounting option allows direct coupling to actuators without couplings, reducing deadband.

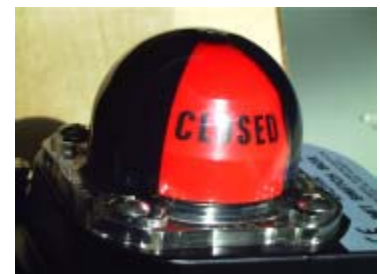
Simply bolt bracket to actuator and APL-2 to bracket, leaving bolts finger tight. For VDI/VDE 3845 applications, the APL-2 shaft features an integral alignment pin. This pin must engage the tapped hole in your actuator shaft. For non-VDI/VDE 3845 applications, make sure to properly install a coupler between APL-2 and actuator. Once the APL-2 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

APL-2 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.

### Adjusting Hi-Viz Indicator

Hi-Viz indicators are easily adjusted to match the dome's clear windows to the rotor's red and green quadrants. Simply loosen the four screws to adjust the indicator. Make sure dome window line up with rotor quadrants. Finally, tighten the screws to insure a good seal.



### Adjusting Limit Switches

APL-2 enclosures feature quick-set cams which are used to trip the limit switches. These cams are easily adjusted. 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 counter-clockwise (CCW) position. Adjust cam(s) associated with CCW as described above except rotate cam(s) CCW.

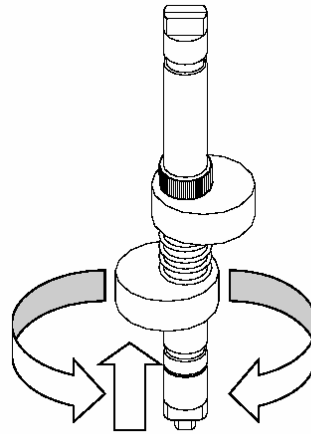
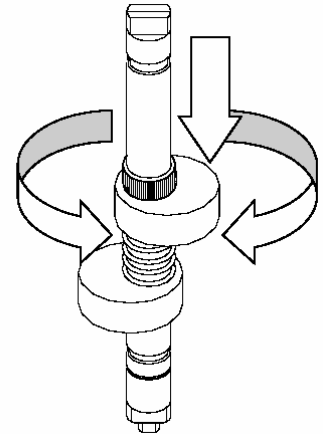
Note: factory setting is top switch = CW (closed), second switch = CCW (open), third switch = CW, and fourth switch = CCW.

### Wiring Instructions

APL-2 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.

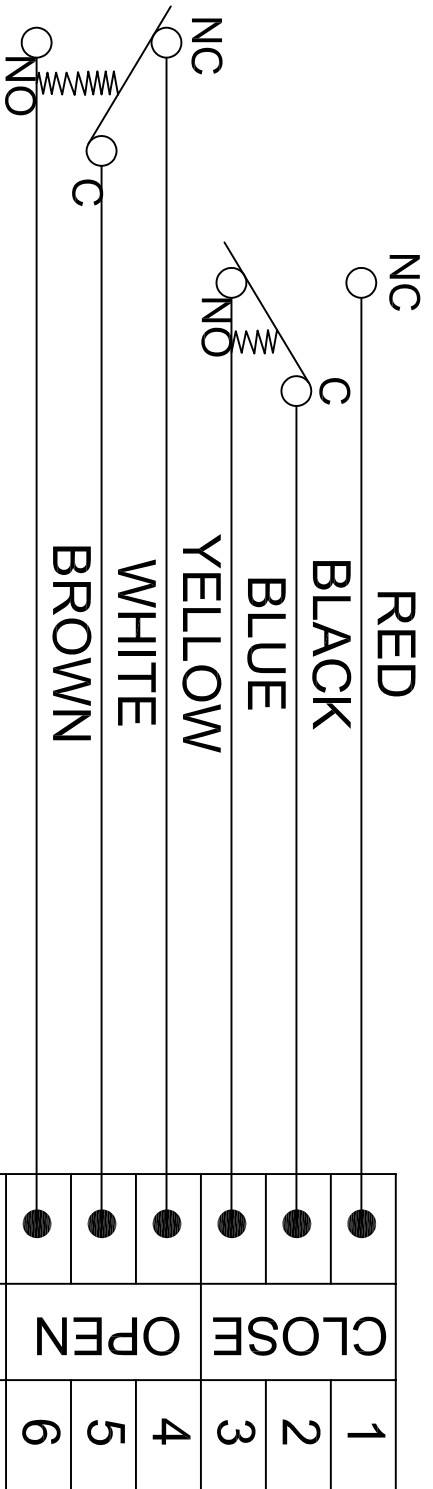
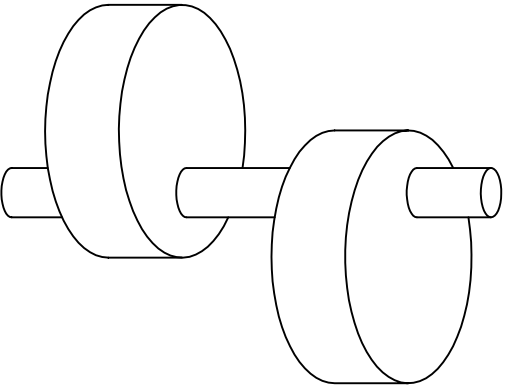
Solenoids may also be wired through the APL-2 enclosure. At least two auxiliary terminals are included as an option. A ground screw is also included. Simply wire the solenoid to auxiliary terminals, and then connect power leads to the opposite terminal side. Be sure to properly ground the solenoid at provided ground terminal.

APL-2 series enclosures include two 1/2" conduit entries. Be sure to follow the National Electric Code regulations for rigid conduit, flexible conduit or cable systems as applicable.



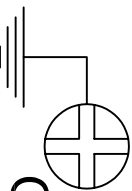
# LIMIT SWITCH BOX (2 SPDT) WIRING DIAGRAM

TOP SWITCH



BOTTOM SWITCH

Omron SS10GL Microswitch,  
 Resistive Load; 10.1 amps @ 125/250 VAC,  
 10.1 amps @ 8/14 VDC, 4 amps @ 30 VDC,  
 0.4 amps @ 125 VDC, 0.2 amps @ 250 VDC,  
 Inductive Load, 3 amps @ 125 VAC,  
 2 amps @ 250 VAC, 4 amps @ 8/14 VDC,  
 0.4 amps @ 125 VDC, 0.2 amps @ 250VDC



GROUND

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ECN#	DATE	BY

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DESIGNED BY	DATE	DRAWN BY	DATE
SAH	02/16/05		
WIRING DIAGRAM FOR THE APL-210N LIMIT SWITCH			

TOLERANCE UNLESS OTHERWISE SPECIFIED:  
 TWO PLACE DECIMAL  
 DIM. ±0.02  
 THREE PLACE DECIMAL  
 DIM. ±0.010  
 ANGULAR DIM. ±0°-30°  
 DO NOT SCALE DRAWINGS