

SPECIFICATIONS

Closed position indicator that visually and electrically displays when the valve is either in the closed or open position. Mounts directly to the DMV, SV, MVD and HSAV series valves. When the valve is closed (NO position) a orange light is visible, when the valve is open (NC position) a green light is visible.

Gases

Natural gas, Propane, Noncorrosive gases, and Air

Switch Type

SPDT

Switch Action

valve open: switch in NC position, Green light
valve closed: switch in NO position, Orange light

Contact Rating

10 A res, 8 FLA, 48 LRA @120 Vac

Enclosure

NEMA 4 when 1/2" NPT to PG11 adapter is sealed with RTV.

INSTALLATION

- Read these instructions carefully.
- Failure to follow them and/or improper installation may cause explosion, property damage and injuries.
- Installation must be done with the supervision of a licensed burner technician.
- The system must meet all applicable national and local code requirements.
- Check the ratings above and on the switch to make sure that it is suitable for your application.
- Never perform work if gas pressure or power is applied, or in the presence of an open flame.
- Protect surfaces. Make sure that seals and O - rings are clean and in good condition.
- Once installed, perform a complete checkout including a gas leak test.
- Label all wires prior to disconnecting when servicing switches. Wiring errors can cause improper and dangerous operation.
- Verify proper operation after servicing.

Mounting

- The valve must be de-energized and the gas supply shut off before mounting the CPI 400.
- Disconnect all power to the switch before beginning to prevent electrical shock and equipment damage.

Mounting Procedure (reference Fig. 1 on page 2)

- **IMPORTANT!! Before mounting the brass adapter to the valve or to the CPI 400, use your fingers to verify that the pin slides freely inside the brass adapter. If this pin is does not slide freely, apply a large enough force to the appropriate side to free the pin.**

- Using a 5 mm hex wrench, remove the plug and its oring located at the bottom of the valve.
- Verify that the brass adaptor has a clean oring, and its threads and the groove, into which the brass adapter mounts, are clean and in good condition.
- Mount the brass adapter into the valve.
- Use a 9/16" (14 mm) open end wrench and turn 1/4 to 1/2 additional turn (after finger tight). DO NOT over

- tighten.
- Mount the CPI switch onto the brass adaptor. Push the CPI housing towards the valve until it stops.
- Turn/Position the CPI so that the wiring and conduit connection apply the least amount of torque as possible.
- Tighten the set screw so that the CPI housing is secured to the brass adaptor.
- Do not turn the CPI 400 after tightening the set screw; this may strip the brass adaptor. The brass adaptor could loosen and the assembly may leak.
- Perform a leak test to verify that no leakage occurs around the oring.

Karl Dungs Inc.

•524 Apollo Drive Suite 10 Lino Lakes, MN 55014, U.S.A. • Phone 651-792-8912 • Fax 651-792-8919

Required Wiring:

- Do not exceed the electrical ratings given in the switch specifications.
- Use 14 or 16 gauge wire for at least 75°C (167°F).
- For NEMA 4 applications, NEMA 4 conduit or wiring methods must be used.
- Run one wire (the COMMON) to the L1 terminal, one to the GROUND terminal, one from the NO terminal to the Proof of Closure terminal of the Flame Safeguard, and one (the NEUTRAL) to L2 on the CPI 400.

NOTE: If N is not wired to L2, the lights will not properly indicate the valve position. The ORANGE light shall be on when the valve is closed, The GREEN light shall be on when the valve is open (FM and NPFA 86 requirement).

Fig. 1

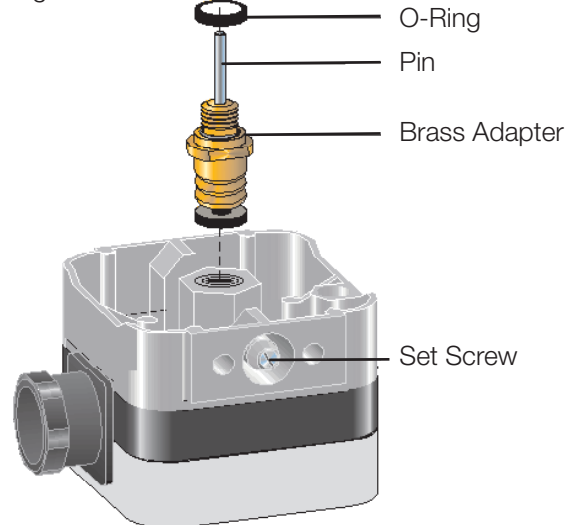


Fig. 2

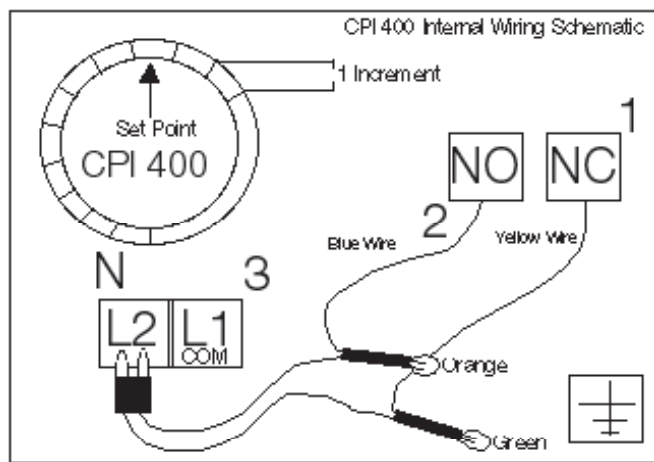
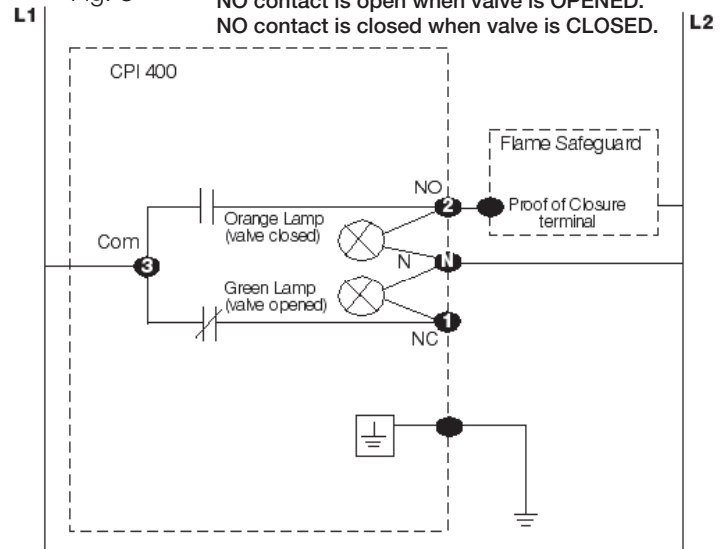


Fig. 3



Calibration and Testing

The CPI 400 must be calibrated to the specific valve it is used on. Failing to properly calibrate this switch may need lead to nuisance problems or to an unsafe startup condition.

Calibrating the CPI: (Reference Fig. 2)

- The CPI must be properly mounted to the valve, and the valve must be closed.
- Disconnect all power to the CPI 400 before adjusting to prevent electrical shock and equipment damage.
- Remove clear cover.
- Turn the adjustment dial counterclockwise until it stops.
- Then turn the adjustment dial clockwise until the switch makes. If by chance there is too much noise to hear the switch trip, proceed to **Calibrating the CPI in noisy environments**.
- Note the position of the set point in reference to the white lines on the scale.
- Turn the adjustment dial **two additional** increments clockwise to the same relative position.
- Replace clear cover, the CPI is now adjusted.

Calibrating the CPI in noisy environments:

- Verify that there are no stray wires that are potentially a shock hazard while the dial is being manually adjusted.

- Apply 120Vac to terminals L1 and L2 of the CPI.
 - Turn the adjustment dial counterclockwise until it stops. The GREEN Light should be illuminated.
 - Then turn the adjustment dial clockwise until the RED light illuminates.
 - Note the position of the set point in reference to the white lines on the scale.
 - Turn the adjustment dial **two additional** increments clockwise to the same relative position.
 - Replace clear cover, the CPI is now adjusted.
- ### Annual Testing
- Perform a switch continuity test at least annually to verify that there is continuity between the switch contacts 3 (COM) and 2 (NO), and verify that there is no continuity between the switch contacts 3 (COM) and 1 (NC).
 - Then, energize the valve that the CPI is mounted to, and verify that there is continuity between the switch contacts 3 (COM) and 1 (NC). Then verify that there is no continuity between the switch contacts 3 (COM) and 2 (NO).
 - If any above check fails, do not use the CPI and contact DUNGS as soon as possible.