

## CPI 400 Installation Manual

### SPECIFICATIONS

Closed position indicator that visually and electrically displays when the valve is either in closed or open position. Mounts directly to the DMV 700 series valves, MVD 500 series valves, and/or MVDLE 200 series valves.

#### Gases

natural gas, propane, noncorrosive gases, and air

#### Switch

SPDT

#### Switch Action

valve open: switch in NC position, light off  
valve closed: switch in NO position, light on

#### Contact Rating

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

#### Enclosure

NEMA 12

#### Ambient/Fluid Temperature

-40° F to 150° F

#### Maximum Operating Pressure

15 psi

#### Materials in Contact w/ Gas

housing: brass, steel  
rubber components: NBR-based rubber

#### Electrical Connection

screw terminals and 1/2" NPT conduit connector

#### Approvals:

UL Unlisted Component: File No. MH16727 (SP)  
FM Approved: Report J.I. 1Z6A0.AF (7411)

### 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 given in the specifications 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 disconnection when servicing switches. Wiring errors can cause improper and dangerous operation.
- Verify proper operation after servicing.

#### Location

The CPI 400 attaches to the bottom of the DMV, HSAV, MVD, and MVDLE series valves and visually and electrically displays when the valve is either in closed or open position. When the valve is closed, the valve operator will observe the red light of the indicator through the clear plastic and the switch is in the NO position. When the valve opens the visual indicator's light is off and the switch is in the NC position.

#### Mounting

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

#### Recommended Mounting Procedure

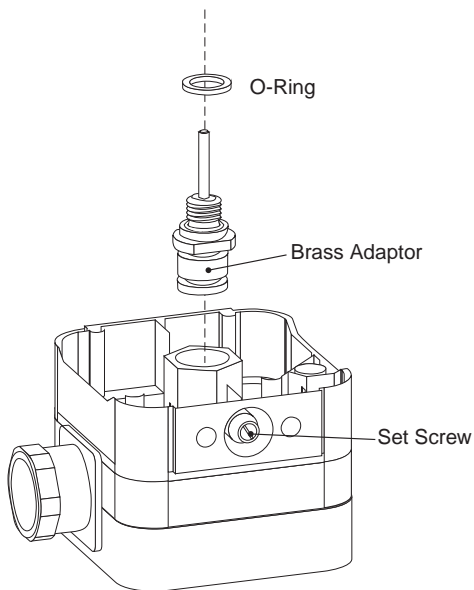
- Remove the plug and the O-ring in the bottom of the valve with a 3/16" (5mm) hex key wrench. This is the tap where the Closed Position Indicator goes. On the DMV

series valves only one CPI 400 can be mounted due to space limitations.

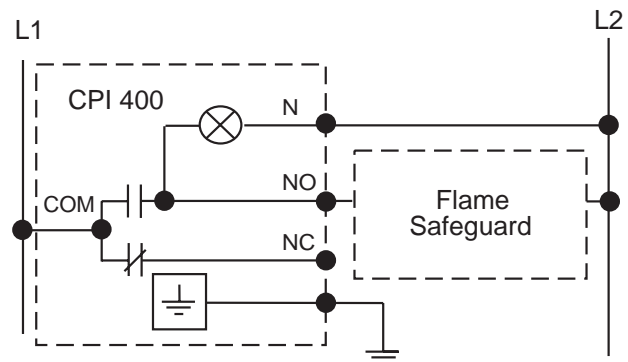
- Clean the mounting surface around the port.
- Make sure the O-ring and the groove are clean and in good condition.
- Insert the brass adaptor and its O-ring.
- Turn the CPI brass adaptor by hand clockwise until it is sufficiently tightened .
- Use a 9/16" (14 mm) open end wrench and turn 1/4 to 1/2 additional turns (after finger tight). DO NOT overtighten.
- Perform a leak test to verify that no leakage occurs around the O-ring.
- When the installation is tight mount the CPI housing onto the brass adaptor.
- Push the housing towards the valve. There should be no visible gap between the adaptor and the housing.
- Turn the housing in the desired direction for the electrical connection. Tighten the set screw in the side tap so that the CPI can still be rotated clockwise.

## Wiring

- Disconnect all power to the CPI 400 before beginning the wiring to prevent electrical shock and equipment damage.
- All wiring must comply with local electrical codes, ordinances, and regulations.
- Do not exceed the switch ratings given in the specifications and on the switch.
- Remove the clear cover from the switch.



- Route the wires through the conduit connector.
- Connect the wiring to the appropriate screw terminals on the terminal strip.
- Recommended wiring:
  - COM to the L1, Ground to ground, NO to the Proof of Closure terminal of your Flame Safeguard, and N to L2.
 The light shall be on when the valve is closed (FM requirement).
- After all connections have been made rotate the CPI to a position so that no torque is applied.
- Now tighten the screw in the side tap so that the CPI is locked.
- Do not turn the CPI 400 after tightening. The brass adaptor could be unscrewed and the assembly could leak.
- Perform a leak test to verify that no leakage occurs around the O-ring.



While valve is closed, switch is in NO position, light is on.

## OPERATION

### Adjustment:

- Disconnect all power to the CPI 400 before beginning the adjustment to prevent electrical shock and equipment damage.
- Remove clear cover.
- The valve must be closed.
- Turn the black knob counterclockwise until it comes to the stop.
- The circuit between the terminal COM and NO should be open.
- Then turn the knob slowly clockwise until the switch makes.
- Turn the knob about an additional 1/4" turn clockwise. The switch is now adjusted.
- Replace clear cover.

With all new installations this procedure should be adopted. Always begin adjustment with the circuit between the terminal COM and NO open.

### Operation Testing

- Perform an additional leakage test to verify that no leakage occurs around the O-ring before putting the valve into service.
- Adjusting the CPI 400 and making the electrical connections may loosen the brass adaptor in the valve body causing gas leakage.
- Make sure no tension or torque is applied to the CPI 400 causing a counterclockwise rotation. Retighten if necessary.
- Test the indicator by opening and closing the valve with the gas supply shut off to visually and electrically insure that the indicator is working properly.

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