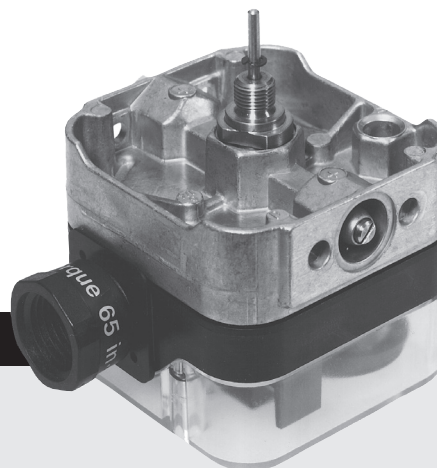


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Approvals



Approval for this part is covered
under the safety valve certification.

Attention



The installation and maintenance
of this product must be done
under the supervision of an ex-
perienced and trained specialist.
Never perform work if gas pres-
sure or power is applied, or in
the presence of an open flame.



Check the ratings in the specifica-
tions to verify that they are suit-
able for your application.



Please read the instruction be-
fore installing or operating. Keep
the instruction in a safe place. You
find the instruction also at www.dungs.com. If these instructions
are not heeded, the result may
be personal injury or damage to
property.



On completion of work on the
valve switch, perform a leakage
and function test.



Any adjustment and application-
specific adjustment values must
be made in accordance with
the equipment manufacturers
instructions.



This product is intended for
installations covered by, but not
limited to, the following codes
and standards: NFPA 86, CSD-1,
ANSI Z21.13, UL 795, NFPA 85 or
CSA B149.3.

Explanation of symbols

1, 2, 3 ... = Action
• = Instruction

Specification

CPI 400

SPDT closed position indicator CPI 400 valve switch visually and electrically indicates when the valve is either in the closed or open position and may be used as a proof of closure switch when factory set and sealed on a valve incorporating overtravel. Mounts directly to the SV, MVD and DMV valves. When the valve is closed, an orange light is visible. When the valve is open, a green light is visible. When the optional 24 VAC/VDC light is used, the closed valve is indicated by a red light rather than an orange light.



Switch Type

SPDT

Switch Action 120 VAC lights

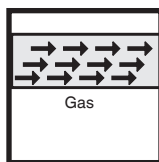
Valve open: Green light

Valve closed: Orange light

Switch Action 24 VAC/VDC lights

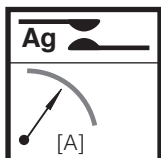
Valve open: Green light

Valve closed: Red light



Gases

Dry, natural gas, propane, butane; other noncorrosive gases. Suitable for up to 0.1 % by volume, dry H₂S when used with stainless steel adapter. A "dry" gas has a dew point lower than +15 °F and its relative humidity is less than 60 %.



Contact Rating

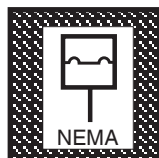
10 A res, 8 FLA, 48 LRA @ 120 VAC.

5 A res @ 230 VAC.

1 A max @ 24 VDC and 1 A max @

VDC. When used, the 24 VDC/VAC

indicator light consumes 20 mA when energized



Enclosure

NEMA Type 4

Mounting

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

Mounting Procedure (reference Fig. 1)

3. **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 does not slide freely, apply a large enough force to the appropriate side to free the pin.**
4. Using a 5mm hex wrench, remove the plug and its o-ring located at the bottom of the valve.
5. Verify that the brass adapter has a clean o-ring and its threads and the groove into which the brass adapter mounts, are clean and in good condition.
6. Mount the brass adapter into the valve.
7. Use a 9/16" (14 mm) open end wrench and torque to 44 in-lbs (5Nm), which is about 1/4 turn (after finger tight). DO NOT overtighten.
8. Mount the CPI switch onto the brass adapter. Push the CPI housing towards the valve until it stops.
9. Turn/Position the CPI so that the wiring and conduit connection apply the least amount of torque as possible.
10. Tighten the set screw so that the CPI housing is secured to the brass adapter.

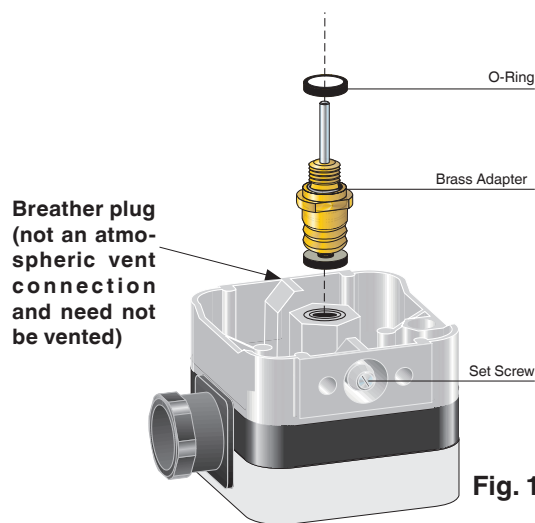


Fig. 1

11. Do not turn the CPI 400 after tightening the set screw; this may strip the brass adapter. The brass adapter could loosen and the assembly may leak.
12. Perform a leak test to verify that no leakage occurs around the o-ring.

Wiring

Required Wiring

- Do not exceed the switches electrical ratings.
- 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 terminal 2 “Proof Terminal” to the Proof of Closure terminal of the Flame Safeguard, and one (the NEUTRAL) to L2 on the CPI 400.

NOTE: If equipment neutral is not wired to L2 on the CPI 400, the lights will not properly indicate the valve position. The ORANGE light should be on when the valve is closed, The GREEN light should be on when the valve is open (FM and NFPA 86 requirement). For 24 VAC/VDC, RED light indicates valve closed.

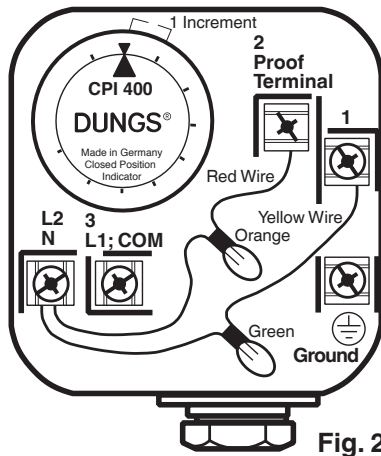
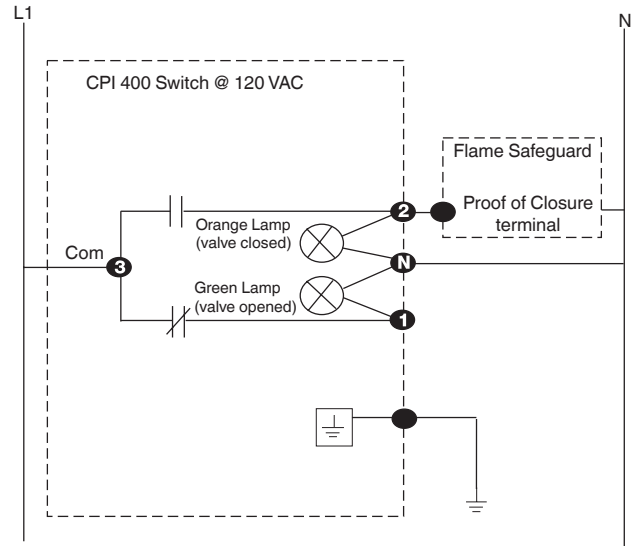


Fig. 2



Do not wire this switch to close a circuit that will directly power another safety shutoff valve. Doing so could result in a safety valve being energized and opened rather than remaining closed.

Calibration & Testing

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

Calibrating the CPI: (Reference Fig. 2)

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

Calibrating the CPI in noisy environments

1. Verify that there are no stray wires that are potentially a shock hazard while the dial is being manually adjusted.
2. Apply voltage to terminals L1 and L2 of the CPI. In order for the lights to work properly, the applied voltage shall be the same as the voltage to the CPI 400 in the actual application (e.g. 220V, 120V, or 24V).

3. Turn the adjustment dial counterclockwise until it stops. The GREEN light should be illuminated.
4. Then turn the adjustment dial clockwise until the RED light illuminates.
5. Note the position of the set point in reference to the white lines on the scale.
6. Turn the adjustment dial **two additional** increments clockwise to the same relative position.
7. Replace clear cover, and the CPI is now ready for service.

Annual Testing

1. Perform a switch continuity test at least annually to verify that with the valves de-energized, the continuity between the switch contacts T3 (COM) and T2 (Proof Terminal) does not exceed 0.2 ohms, and verify that there is no continuity between the switch contacts T3 (COM) and T1.
2. Then, energize the valve, and verify that the continuity between the switch contacts T3 (COM) and T1 does not exceed 0.2 ohms, and then verify that there is no continuity between the switch contacts T3 (COM) and T2.
3. If any above check fails, do not use the CPI and contact DUNGS immediately.

Replacement Parts	
Kit Clear plastic cover (1 pcs)	240837
Kit 120 VAC neon lights (one orange & one green) (1 pcs)	231420
Kit 24 VAC/VDC LED lights (one red & one green) (1 pcs)	248183
PG 11 - 1/2" NPT co2nduit adapter (1 pcs)	220566
Brass adapter (standard)	273544
Stainless steel adapter	273965
CPI 400 valve switch (standard with brass adapter)	266968
CPI 400 valve switch 24 V lights (standard with brass adapter)	273450
CPI 400 valve switch (with stainless steel adapter)	274058
230 V neon light (green)	248239
230 V neon light (yellow)	231773

We reserve the right to make modifications in the course of technical progress.

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