Gas & Air Pressure Switches series CPE

CPE compact gas and air pressure switches monitor pressure and interrupt electrical control circuit by over and under pressure than desired set points.

Pressure settings are easy to read and to adjust.

The switches are sturdy and produced with a durable plastic electrical enclosure and a die-cast aluminium basis.

CPE are CE approved, according to norms EN1854.

TECHNICAL FEATURES

Housing	Die-cast aluminium
Switch	Polycarbonate
Diaphragms	NBR
Ambient temperature	-20 ÷ +60° C
Max. operating pressure	500 mbar / 600 mbar (for CPE 500)
Electrical rating	AC eff. max 6 A
Switching voltage	AC min 24V / max 250 V
	DC min 24V / max 48 V
Electrical protection	IP54 acc. to IEC 529
Electrical connection	3 pin connector for line sockets – DIN – EN 175 301-803 (without earthing)
Pressure connection	¼ - BSP Thread central mounting
Max peak pressare	1 bar
Media	Natual gas, LPG and air
Accuracy	≤ ± 15% of the setting value
Weight	142 g

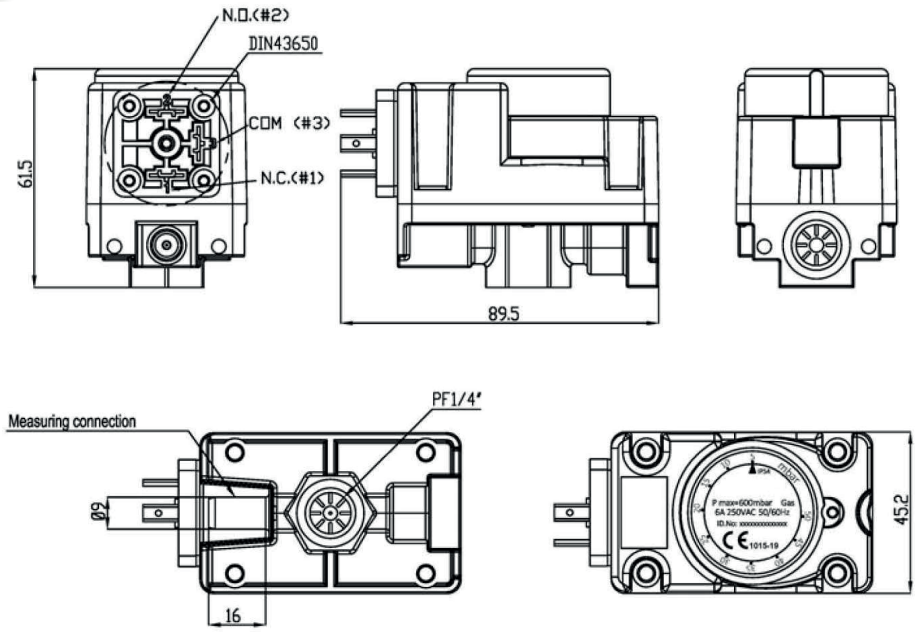
FEATURES

- Compact design
- Adjustable set points
- Diaphragm mounted on safety limit switch
- Vent less
- Removable transparent adjustment knob cover
- Pressure test point incorporated in the Ø 9 mm metal body

MODELS

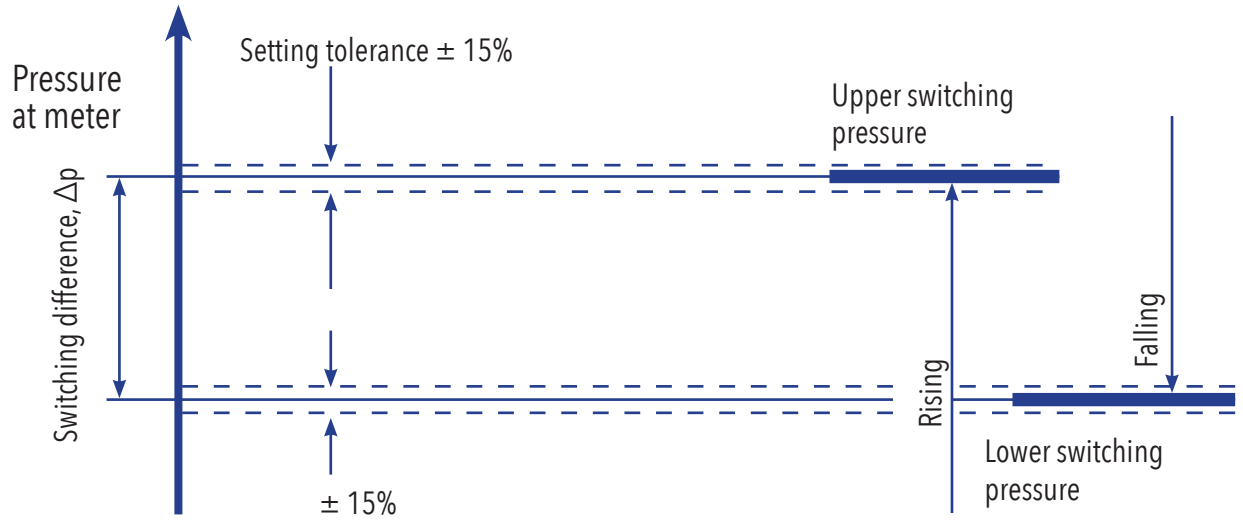
Version	Range	Max pressure	Switch Differential
CPE 003	1 ÷ 3 mbar	500 mbar	≤ 1,0 mbar
CPE 010	2 ÷ 10 mbar	500 mbar	≤ 1,5 mbar
CPE 050	5 ÷ 50 mbar	500 mbar	≤ 3,0 mbar
CPE 150	5 ÷ 150 mbar	500 mbar	≤ 6,0 mbar
CPE 500	100 ÷ 500 mbar	600 mbar	≤ 20,0 mbar

DIMENSIONS



DEFINITION OF SWITCHING DIFFERENCE ΔP

The switching difference Δp is the pressure difference between the upper and lower switching pressures.



INSTALLATION AND OPERATING INSTRUCTIONS

1. **ATTENTION**: Installation must be carried out exclusively by skilled and authorized service technicians.

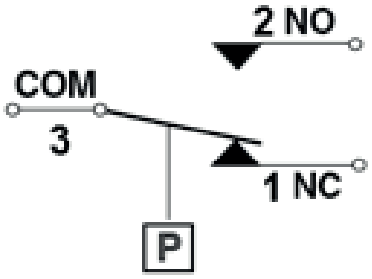
2. Before installing the pressure switch, make sure that the pipeline is free from impurities and vibration-free.

   2.1 Pressure switches should be installed onto support pipeline with R ¼ external thread.
   2.2 The sealing material must be applied to the external thread of the pipeline only and not to the internal thread of the switch. Use sealants suitable for gas only.
   2.3 After installation, function and holding tests must be carried out.
   2.4 Do not use the switch as a lever, but use the correct wrench [CH 21].
   2.5 Clamping torque should not be over 7 Nm.

3. Switching function

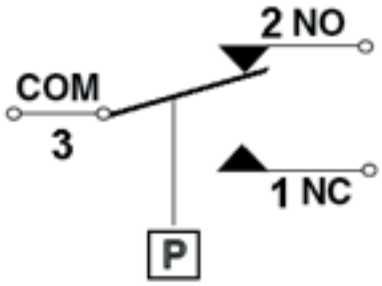
   By means of electrical wiring EN60730 with plug EN 175 301-80, when pressure:

Example 1



When pressure rises over set point
1 NC opens, 2 NO closes

Example 2



When pressure goes below set point
1 NC closes, 2 NO opens

4. After having installed and wired the pressure switch, calibrate it as indicated below:

   • Unscrew the fixing screw (fig. 1);

   • Remove the protective cap (fig. 2);

   • Calibrate the switch by acting on the wheel of the graduated scale (fig. 3);

   • Put the cap back in its original position and tighten the fixing screw (fig. 4).


fig. 1

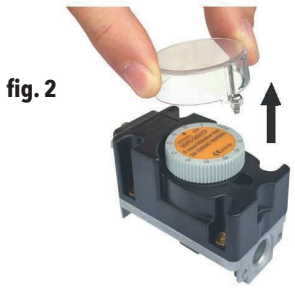
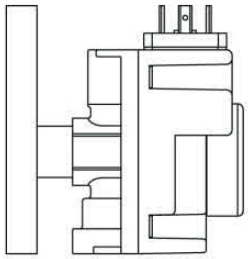


fig. 2

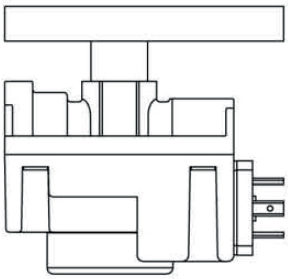

fig. 3


fig. 4

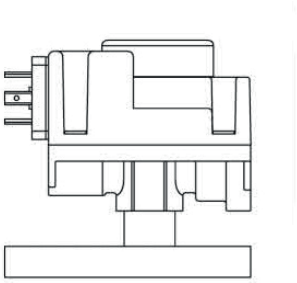
INSTALLATION POSITION

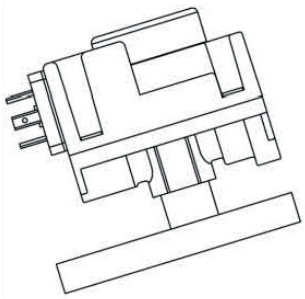


Standard installation position (recommended). If a different installation position is used, **pay attention to the selected set point as the pressure switch activates at different pressures.**



When installed **up side down**, the pressure **switch activates at a higher pressure than the set point.**





When installed **horizontally overhead**, the pressure **switch switches at the lower pressure than the set point.**

INSTALLATION IN PLACES WHERE THERE IS THE RISK OF EXPLOSION (DIRECTIVE 2014/34/EU)

The device is not suitable for use in zones here there is the risk of explosion.

WIRING CONNECTIONS

Must be carried out with the system stopped and **NOT** electrically powered.

A separately supplied connector must be used for the electrical connections for the line sockets, according to DIN - EN 175301-803 (without earthing)
Use a cable with an appropriate cross-section based on the cable gland of the connector.

NOTE: wiring must be do ensuring a product rating of IP54.

ATTENTION

In case of following circumstance, we recommend to discuss with us before using.

Vapours containing silicone can adversely affect the functioning of electrical contacts. In the case of low switching capacities such as 24V, less than 20mA, for example, we recommend using RC module or electronic switch(no-contact swithch) in air containing silicone or oil.

In case of high humidity or aggressive gas components (H2S), we recommend using a pressure switch with gold contact (optional version) and to use the NC contact.

MAINTENANCE

CPE device: No maintenance operations need to be carried out.

TRANSPORT, STORAGE AND DISPOSAL

During transport the material needs to be handled with care, avoiding any impact or vibrations to the device;

If the product has any surface treatments (ex. painting, cataphoresis, etc) it must not be damaged during transport;

The transport and storage temperatures must observe the values provided on the rating plate;

If the device is not installed immediately after delivery it must be correctly placed in storage in a dry and clean place;

In humid facilities, it is necessary to use driers or heating to avoid condensation.

At the end of its service life, the product must be disposed of in compliance with the legislation in force in the country where this operation is performed.

WARRANTY

The warranty conditions agreed with the manufacturer at the time of the supply apply.

Damage caused by:
- Improper use of the device;
- Failure to observe the requirements described in this document;
- Failure to observe installation rules;
- Tampering, modification and use of non-original spare parts;are not covered by the rights of the warranty or compensation for damage.

The warranty also excludes maintenance work, the assembly of devices of other manufacturers, making changes to the device and natural wear.

All the reported data are subject to be changed without notice. **form 191010**