

Pressure Monitor v1 PM276

Description

The PM276 provides a retransmit output and an alarm contact for applications requiring electronic pressure monitoring. The heart of the PM276 is a piezoresistive silicon pressure transducer, providing high accuracy, long life and total adjust-ability. The PM276 contains a stable bridge supply, pre-amplifier, scaling amplifier and a comparator circuit driving a high power relay. The trip point and switching hysteresis are adjustable from the front of the module. A 2mm test socket is used for trip adjustment within a 0-5V trip set range calibrated to correspond to the input pressure range. Trip status is indicated by a red L.E.D. on the front. High or low setting is selectable internally by coding plugs. Optional features include vacuum and absolute inputs with a wide choice of retransmit analogue output signals. Power supply can be 12 or 24Vdc or low level (non isolated) AC voltage.



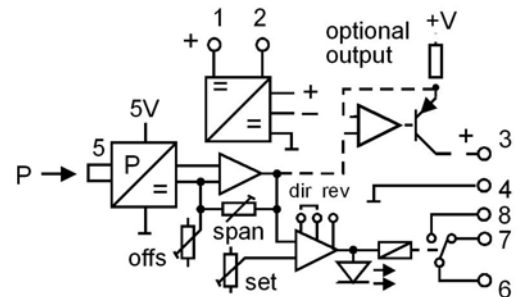
Trip set example

Input range: 0 - 10kPa.
 Trip set range: 0 - 5Vdc (test socket to terminal 2).
 Required trip point: 2kPa.
 Set trip to: $\frac{5}{10} \times 2 = 1V$

General Specifications

Size: 22.5W x 68H x 120D (mm)
 Mounting: Clip for 35mm DIN-Rail.
 Housing material: Polycarbonate.
 Electrical connection: Screw terminals.
 Pneumatic connection: Barbed nozzle for 3.5 - 4mm I.D. tube. Optional quick connector "one touch" for 3.2mm O.D. tube.
 Weight: 100 kg.
 Protection class: IP40 (IP65 Enclosure opt.)
 Input pressure ranges: 1kPa up to 200kPa. (0.15 PSI up to 30 PSI).
 Medium compatibility: Air, low pressure steam, gasoline and oil vapours, ethylene glycol.
 Over pressure (max): 5 x range (2 x range/200kPa).
 Accuracy: (> 5kPa) <1% of range.
 Linearity: <0.5% of range.
 Pressure hysteresis: 0.05% of range.
 Temperature drift: 0.02% per °C.
 Relay contact: Change-over.
 8A/250Vac resistive.
 3.5A/250Vac inductive.
 Switching hysteresis (DB): 0.5 - 5%.
 Power supply swing: -20...+30%.
 Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1)

Block Diagram



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

TYPE NO. DESIGNATION

Power Supply:

- 1 = 12Vdc (30mA - 50mA).
2 = 24Vdc (50mA - 70mA).

- # 3 = 12Vac (non isol).
4 = 24Vac (non isol).
*) 9 = Other <48V dc/ac (Specify).

Input:

- 1 = 0 - 1kPa (0.15 PSI).
2 = 0 - 2kPa (0.3 PSI).
3 = 0 - 5kPa (0.75 PSI).
4 = 0 - 10kPa (1.5 PSI).

- 5 = 0 - 20kPa (3 PSI).
6 = 0 - 50kPa (7.5 PSI).
7 = 0 - 100kPa (15 PSI).
8 = 0 - 200kPa (30 PSI).
*) 9 = Other pressure 200kPa max. (Specify).

*) Retransmit Output: (for ≥ 5 kPa)

(For 24Vdc supply only - 12Vdc models have reduced output drive).

- 0 = None.
1 = 0 - 1mA (10k Ω max).
2 = 0 - 5mA (2k Ω max).
3 = 0 - 1V (100k Ω min).
4 = 0 - 5V (100k Ω min).
5 = 0 - 10V (500k Ω min).
6 = 1 - 5V (100k Ω min).
7 = 4 - 20mA (500 Ω max).
8 = 10 - 50mA (200 Ω max).
*) 9 = Other (Specify).

Options:

- 0 = None.
3 = Open collector transistor output.
*) 4 = (0 - 100kPa) Vacuum.
*) 5 = (0 - 120kPa) Vacuum (Barometric).
*) 9 = Other (Specify).

Nozzle Type:

- 1 = Barbed fitting for 3.5 - 4mm ID soft tube.
*) 2 = Quick-Connect 3.2mm (1/8") OD tube (recommended tube SMC TE 1800 BG)
*) 6 = Quick-Connect 6mm OD tube

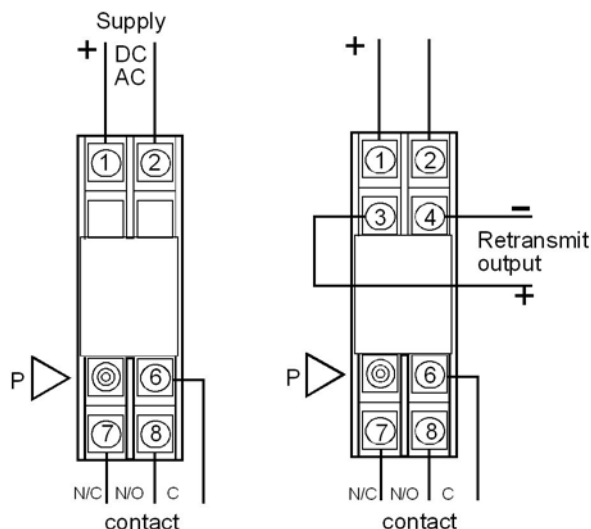
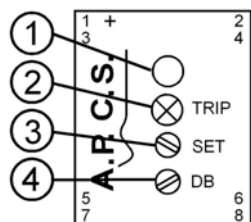
= Not Suitable For Units With Retransmit Output.

*) = Price Extra.

Connection Diagram

Front Control Explanation

- 1) Test socket. Reference to terminal 2 for trip adjustment.
- 2) Status indicator. ON = relay energised.
- 3) Trip set adjustment (15 turns).
- 4) Dead band (Hysteresis) adjustment (15 turns).



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