

Pressure Monitor v2 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.



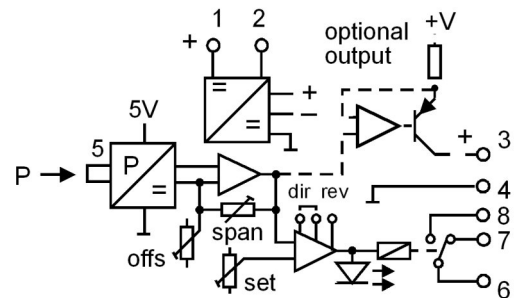
Trip set example

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: 23.5W x 71.5H x 109D (mm).
 Mounting: Clip for 35mm DIN-Rail.
 Housing material: ABS.
 Termination: Top mounted screw terminals.
 Pneumatic connection: Barbed nozzle for 3.5 - 4mm I.D. tube. Optional quick connector "one touch" for 3.2mm O.D. Tube (as shown).
 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). | # 3 = 12Vac (non isol). |
| 2 = 24Vdc (50mA - 70mA). | # 4 = 24Vac (non isol). |
| | *) 9 = Other <48V dc/ac (Specify). |

Input:

- | | |
|--------------------|---|
| 4 = 1 to 10kPa | Specify required calibration within the input range selected. |
| 7 = 10 to 100kPa. | |
| 8 = 100 to 200kPa. | |

*) Retransmit Output: (for ≥ 5 kPa)

- (For 24Vdc supply only - 12Vdc models have reduced output drive).
- | | |
|-------------------------|---------------------------|
| 0 = None. | 5 = 0 - 10V (500kΩ min). |
| 1 = 0 - 1mA (10kΩ max). | 6 = 1 - 5V (100kΩ min). |
| 2 = 0 - 5mA (2kΩ max). | 7 = 4 - 20mA (500Ω max). |
| 3 = 0 - 1V (100kΩ min). | 8 = 10 - 50mA (200Ω max). |
| 4 = 0 - 5V (100kΩ min). | *) 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 |

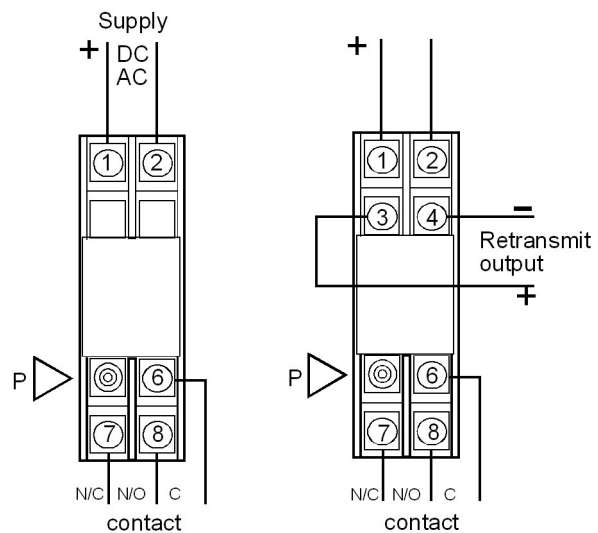
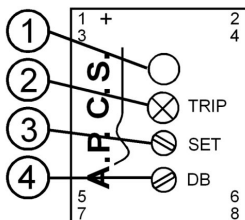
= Not Suitable For Units With Retransmit Output.

*) = 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).



In the interest of development and improvement, APCS reserve the right to amend, without notice, details contained in this publication. APCS will accept no legal liability for any errors, omissions or amendments.