



## Description

The differential pressure transmitter serie PTM is used to measure differential pressure, overpressure and vacuum of gaseous, non-aggressive media. It provides 2 pressure ranges and 2 output signals, which are selectable by jumper. Possible fields of application are building automation and air conditioning systems, overpressure measurement in clean rooms and laboratories, measurement of constant pressure in VAV applications, dynamic filter and ventilator monitoring.

## Technical specifications

|                                       |  |
|---------------------------------------|--|
| <b>Medium</b>                         | Air, non-combustible and non-aggressive gases  |
| <b>Measurement range</b>              | See schedule   |
| <b>Linearity and hysteresis error</b> | $\leq \pm 1\%$ of FS   |
| <b>Repetition accuracy</b>            | $\leq \pm 0.2\%$ of FS   |
| <b>Response time</b>                  | 0.1 s or 1 s, selectable by jumper   |
| <b>Position dependence</b>            | $\leq \pm 0.02\%$ of FS/g  |
| <b>Long term stability</b>            | $< \pm 0.5\%$ final value/year   |
| <b>Offset calibration</b>             | The output signal can be calibrated to zero by pressing the M key.   |
| <b>Supply voltage</b>                 | 18...30 V AC / 16...32 V DC  |
| <b>Output signal</b>                  | 3-wire connection, with switching output. The factory setting is 0-10 V DC, but can be changed to 4-20 mA by removing the jumper. 2-wire connection 4-20 mA version is available upon request. |
| <b>Switching output</b>               | npn transistor output for max. 30 V DC/100 mA  |
| <b>Electrical connection</b>          | Screw terminal block for wires and strands up to 1,5 mm <sup>2</sup>   |
| <b>Display, optional</b>              | LED, 4 digits  |
| <b>Housing material</b>               | Housing with process connection P2 (-)<br>Base part with process connection P1 (+)   |
| <b>Cable conduit</b>                  | M16x1,5 connection made of polyamide   |
| <b>Housing dimensions</b>             | approx. $\varnothing$ 85 x 58 mm   |
| <b>Weight</b>                         | approx. 150 g  |
| <b>Protection class</b>               | IP54   |
| <b>Working humidity</b>               | 0...95% RH, non-condensing   |
| <b>Working temperature</b>            | 0...+50°C  |
| <b>Storage temperature</b>            | -40...+70°C  |
| <b>Accessories</b>                    | Connection set (PVC-hose 2 m $\varnothing$ 6 with 2 ABS nipples and 4 screws) <b>included</b> and snap-on plastic brackets optionally  |
| <b>Installation</b>                   | Screw fastening  |
| <b>Installation position</b>          | any  |
| <b>Standards</b>                      | CE-conformity, RoHS  |
| <b>Optional</b>                       | UL, conforms to UL Std. 61010-1, conforms to CSA Std. C22.2 No. 61010-1  |



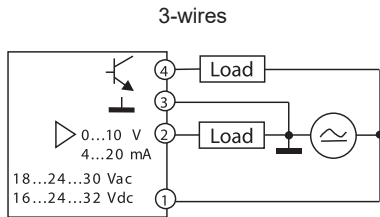
| Models | Measuring range         | Max pressure |
|--------|-------------------------|--------------|
| PTM1   | -50...0...+50 Pa        | 20 kPa       |
| PTM2   | 0...100 Pa, 0...250 Pa  | 20 kPa       |
| PTM3   | 0...500 Pa, 0...1000 Pa | 20 kPa       |
| PTM4   | 0...1 kPa, 0...2,5 kPa  | 40 kPa       |
| PTM5   | 0...5 kPa, 0...10 kPa   | 60 kPa       |
| PTM6   | 0...25 kPa, 0...50 kPa  | 300 kPa      |
| PTM9   | -100...0...+100 Pa      | 20 kPa       |

Suffix D for models with display

Suffix UL for models UL / CSA approval

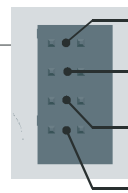
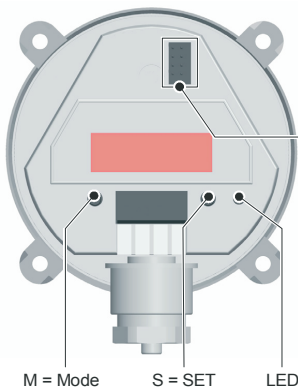


## Electrical wirings



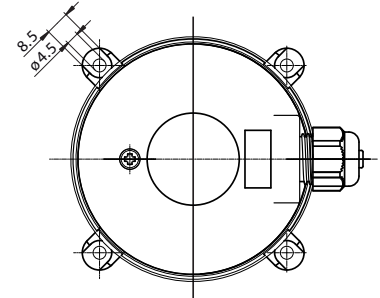
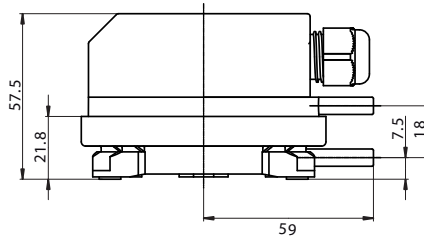
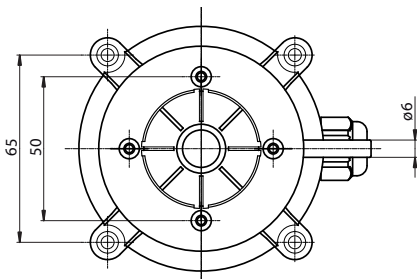
|   |    |                                   |
|---|----|-----------------------------------|
| 4 | SA | Switching output, npn             |
| 3 | GO | Ground GND                        |
| 2 | Y  | Output signal 0...10V / 4...20 mA |
| 1 | G  | Supply voltage 24 VAC / VDC       |

## Setting

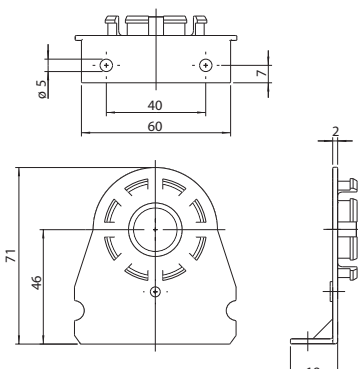


|                                   | Jumper (switched) | Aperto (open)            |
|-----------------------------------|-------------------|--------------------------|
| Range pressione (Pressure range)  | Bassa (low)       | Alta (high)              |
| Risposta (Response)               | Lenta (slow)      | Veloce (fast)            |
| Funzionamento (Mode)              | Lineare (linear)  | Quadratico (square root) |
| Segnale di uscita (Output signal) | 0...10 V          | 4...20 mA                |

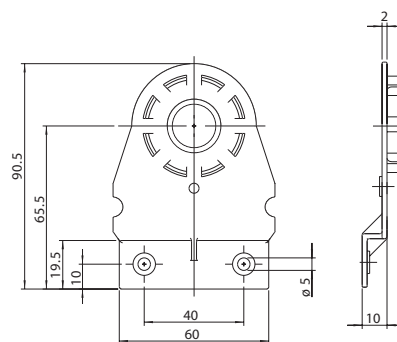
## Dimensions (mm)



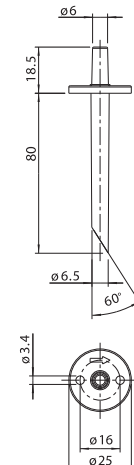
APA1 Snap-on plastic bracket, L-shaped



APA2 Snap-on plastic bracket, S-shaped



ABS nipple (part of connection set APA3)





## ■ Programming version without display

In the version without display, you can program the switching value by acting in this way:

1 Apply the pressure or differential pressure at which you want the system switches

2 Press the „S“ button for 5 seconds until the LED flashes quickly.

At this point the switching value is saved and the LED will light while reaching the set pressure.

## ■ Programming display version

| Pulsante / switch | Display | Passo / step     | Note / Information   |
|-------------------|---------|------------------|--|
|                   | 250     |                  | <b>Pressione rilevata / current measured value</b>   |
| Press >M<         |         |                  |  |
|                   | OFFS    |                  | <b>Calibrazione offset* / Offset calibration*</b>  |
| Press >M<         |         | Press >S<        | Visualizza attuale offset / Show actual offset value   |
|                   | -3      |                  |  |
|                   |         | Press >S<(5 sec) | Ritaratura offset / recalibration of offset  |
|                   | 0       |                  |  |
|                   |         | Press >M<        | Memorizzazione offset, il display lampeggia / Store offset, Display blinking for confirmation                          |
|                   | OFFS    |                  |  |
|                   |         |                  |  |
| Press >M<         |         |                  |  |
|                   | SP      |                  | <b>Impostazione valore di commutazione / Setting switching level</b>   |
|                   |         | Press >S<        | Visualizza attuale valore di commutazione / Show actual switching level  |
|                   | 112     |                  |  |
|                   |         | Press >S<(5 sec) | Modifica valore di commutazione / Modify switching level   |
|                   | 112     |                  |  |
|                   |         | Press >M<        | Memorizzazione valore di commutazione, il display lampeggia / Store switching level, Display blinking for confirmation |
|                   | SP      |                  |  |
|                   |         |                  |  |
| Press >M<         |         |                  |  |
|                   | HI      |                  | <b>Valore di picco max. / peak value high</b>  |
|                   |         | Press >S<        | Visualizza il valore di picco max. / show peak value high  |
|                   | 240     |                  |  |
|                   |         | Press >M<        | Ritorno / return   |
|                   | HI      |                  |  |
|                   |         |                  |  |
| Press >M<         |         |                  |  |
|                   | LO      |                  | <b>Valore di picco min. / peak value low</b>   |
|                   |         | Press >S<        | Visualizza il valore di picco min. / show peak value low   |
|                   | -50     |                  |  |
|                   |         | Press >M<        | Ritorno / return   |
|                   | LO      |                  |  |
| Press >M<         |         |                  |  |
|                   | 250     |                  | <b>Pressione rilevata / current measured value</b>   |

\* Free from pipes or remove the cap from the two nozzles before proceeding with the offset re-calibration.