

Vaisala Differential Pressure Transmitter PDT101



Vaisala Differential Pressure Transmitter PDT101 with current output (black) and voltage output (green).

Features

- Easy mounting on wall, DIN rail or panel
- 2 pressure ranges (Pa and in H₂O)
- Accessible zero and span adjustment potentiometers
- 1/4" brass tubing connections
- LED status indicator
- Specially designed for critical and regulated environments
- Euro style detachable connector
- NIST traceable (certificate included)

Operating Environment

Vaisala Differential Pressure Transmitter PDT101 is designed especially for demanding life science and high technology cleanroom applications. The PDT101 transmitter is ideal for incorporating into the Vaisala Veriteq Continuous Monitoring System to measure and monitor the critical environmental parameters as required in regulated environments.

Performance

The PDT101 offers high accuracy, sensitivity and stability with accuracy 0.40% of span providing a highly reliable and repeatable measurement. The sensor uses a micro-machined, ultra-thin silicon diaphragm which provides inherent sensor repeatability and stability. The sensor enables precise measurement and control in high performance

cleanrooms. The PDT101 transmitter is available with voltage output (3-wire) or current output (2-wire).

Zero and span adjustment screws are available on every PDT101 model. Both adjustments are accessible from the front of the unit.

Applications

The PDT101 is suitable for high performance cleanroom environments in the life science, semiconductor and electronics industries. As part of a continuous monitoring system, it is highly suitable for regulated environments where continuous, documented and redundant data is a requirement to meet FDA regulations. The compact design is well suited for mounting in a cleanroom or in the adjacent corridor with LED indicator lights for quick and easy power status spotcheck.

Technical Data

Performance

| | |
|--|--|
| Measurement ranges (bidirectional) | ±60 Pa ±0.25 in H ₂ O |
| Overpressure | |
| proof pressure | 1.0 bar |
| burst pressure | 1.7 bar |
| static pressure | 1.7 bar |
| Pressure type | differential, gauge, vacuum and compound |
| Accuracy (incl. non-linearity, hysteresis, repeatability and zero/span calibration settings) | 0.4 % span |
| Long-term stability | ≤0.5 % span/year |
| Response time (10 ... 90 %) | 250 ms |
| Warm-up time | 15 s |
| Compensated temperature range | +2 ... +54 °C (+35.6 ... +129.2 °F) |
| Temperature dependence | ±(0.065 Pa + 0.054 % of reading) / °C or ±(0.00015 in H ₂ O + 0.03 % of reading) / °F (reference 21 °C or 70 °F) |
| Mounting position | |
| error (zero adjustable) | ≤1 %/g (calibration in vertical position is standard) |
| Adjustments (front accessible) | |
| zero | ±5 % span |
| span | ±3 % span |

Operating Environment

| | |
|--|------------------------------------|
| Operating temperature | -18 ... +70 °C (-0.4 ... +158 °F) |
| Storage temperature | -40 ... +82 °C (-40 ... +179.6 °F) |
| Electromagnetic compatibility (EN 61326-1), basic immunity test requirements | |
| Note: If used in an electromagnetic field of 3 V/m, with narrow frequency area of 80 - 120 Mhz, it is possible that the current output of PDT101 can deviate max. 0.8% (with accuracy specified 0.4%). | |

Inputs and Outputs

| | |
|--------------------------------------|--|
| Process connection | 1/4" barbed fittings |
| Output signal | |
| 2-wire | 4 ... 20 mA |
| 3-wire | 0 ... 5 VDC (user selectable 0 ... 10 VDC) |
| Operating voltage | |
| 2-wire output 4 ... 20 mA | 12 ... 36 VDC |
| 3-wire output 0 ... 5 VDC | 11.5 ... 36 VDC |
| 3-wire output 0 ... 10 VDC | 14 ... 36 VDC or 24 VAC |
| Max. loop resistance for 4 ... 20 mA | ≤ (Supply voltage - 12V)/0.022 A |
| Supply current | max. 20 mA for 4 ... 20 mA output signal |

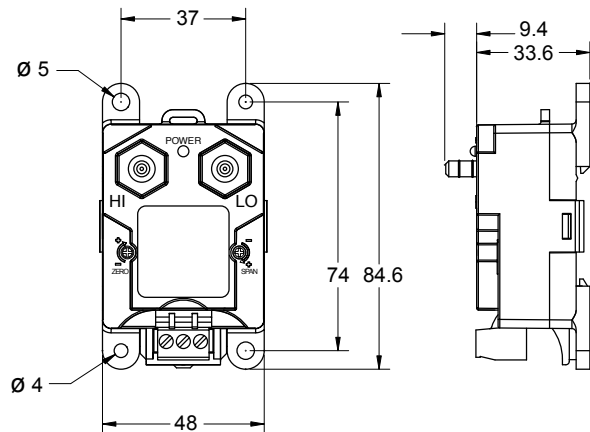
| | |
|-----------------------------|---|
| Optical process diagnostics | LED visual indicator |
| Electrical connection | Euro style pluggable terminal block accepts 12...26 AWG wire (0.13 up to 3.31 mm ²) |

Mechanics

| | |
|------------------------|---|
| Medium (measured gas) | clean and dry air, non-conducting and non-corrosive gases |
| Material | |
| process connection | brass |
| sensor element | silicon, aluminium, glass |
| case | NEMA type 1 fire-retardant ABS 1 (meets UL94-5VA) |
| Mounting | threaded fastener for wall mounting or DIN rail type EN50022 |
| Housing classification | IP40 |
| Weight | 0.07 kg |

Dimensions

Dimensions in mm



Order Information for PDT101

PDT101 - XXX

Measurement range: **P** (+/-60 Pa) or **W** (+/-0.25 in H₂O)

Accuracy: **4** (0.4 % span)

Output: **C** (current) or **V** (voltage)

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