Pressure Transmitter

Model 8227

Application

This sensor is designed specifically for industrial use: industry-standard signal outputs and connectors, standard measurement ranges, rugged design and low cost. With its rugged housing, high-quality electrical connector and a stainless steel sensor element, the transducer is particularly robust and ideally suited to the harshest environments. This also means that the sensor can be installed anywhere with no effect on the measurement signal. The built-in instrumentation amplifier converts the sensor signals into noise-immune voltage signals that can be transmitted over relatively long distances (current-signal output available as an option). For high viscose materials, a front-level membrane is available, and with this disruptive dead volumes can be expelled.

Areas of use:

► Controlling and monitoring of production facilities
► Cooling and air-conditioning systems
► Hydraulic or pneumatic machinery
► Monitoring of compressors and pumps
► Manufacturing systems
► Plastics processing industry

Description

The sensor element located inside the transducer comprises a diaphragm that measures the applied pressure with respect to the current atmospheric pressure (relative reading). For the front-level option, the measuring element is situated directly behind the very stable membrane manufactured from stainless steel. The sensor has a small protected hole on the rear to allow measurement of atmospheric pressure. For the absolute measurement option, the applied pressure is measured with respect to an enclosed vacuum. As an electrical connection, a DIN 43650A valve connector or an M12 x 1 connection is available. A process connection can be chosen from several alternatives. The built-in instrumentation amplifier outputs a voltage or current according to the pressure. The output is protected against short-circuit and polarity reversal of the supply voltage.

NEW
Option front flush diaphragm in G 1/4 and M10 x 1

Measuring ranges between 0 ... 0.05 bar to 0 ... 500 bar and -1 ... 1 bar to -1 ... 10 bar
Accuracy 0.25 %
Output 0 ... 10 V, optional 0 ... 5 V or 4 ... 20 mA
Suitable for liquid and gaseous media
For dynamic and static measurements
Option: absolute measurement
Very economic price

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Temperature effect on characteristic value: ± 0.02 % F.S./K
Temperature effect on zero signal: ± 0.02 % F.S./K
Dead volume at restored diaphragm: 0.5 cm³
Measuring Ranges: see table
Rated temperature range: - 10 °C ... 85 °C
Weight: 110 g
Dimensions: refer to drawing and table
Dynamic performance: recommended 70 % of capacity
over capacity, max. 1200 bar
Dynamic performance: maximum 100 % of capacity
Dimensions: refer to drawing and table
Weight: 110 g
Protection class acc. to EN 60529: connector EN 175301 IP67
connector M12 x 1 IP67
Mechanical shock: 100 g/1 ms, according to IEC 68-2-6
Vibration: max. 20 g at 15-2000 Hz according to IEC 68-2-6
Mounting torque: max. 3 Nm
Material:
measuring range 0 ... 2 bar
measuring range 0 ... 5 bar
measuring range 0 ... 5 bar
measuring range 0 ... 5 bar
measuring range 0 ... 5 bar
measuring range 0 ... 5 bar
size A: L 82 mm, D 22 mm; size B: L 72 mm, D 26.5 mm
Electrical values
Excitation voltage:
voltage output 10 V 15 ... 30 VDC
voltage output 5 V 10 ... 30 VDC
current output 4 ... 20 mA 10 ... 30 VDC
Current consumption:
voltage output < 13 mA
current output < 32 mA
Insulation resistance:
at 50 V DC > 1000 MΩ
Load resistance:
at 30 V DC excitation max. 750 Ω
Cut-off frequency:
(-3dB) 250 Hz
Reaction time:
(10 ... 90 % F.S.) < 1 ms
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