

High Precision Pressure Transmitter

MODEL 8228 **NEW**



External thread G1/4" with
M12 x 1 connector

Highlights

- Measurement ranges of 0 ... 0.1 bar to 0 ... 200 bar
- Accuracy from 0.05 % F.S.
- Built-in amplifier with output 0 ... 10 V
- Temperature range -20 ... +80 °C
- Protection class IP67

Options

- Absolute measurement type
- Current output 4 ... 20 mA

Applications

- Test bench technology
- Pneumatic systems
- Leak detection
- Process engineering

Product description

The sensor model 8228 with its measuring accuracy of 0.05% F.S. (for the measuring ranges ≤ 1 bar, the measuring accuracy is 0.1% F.S.) ideally suited as a reference sensor. The compact dimensions, the robust housing and the industrial-grade output signal result in a very wide range of applications.

All components in contact with media are made of stainless steel. An integrated measuring amplifier converts the measuring signals directly into interference-free voltage signals or current signals that can be transmitted over long distances.

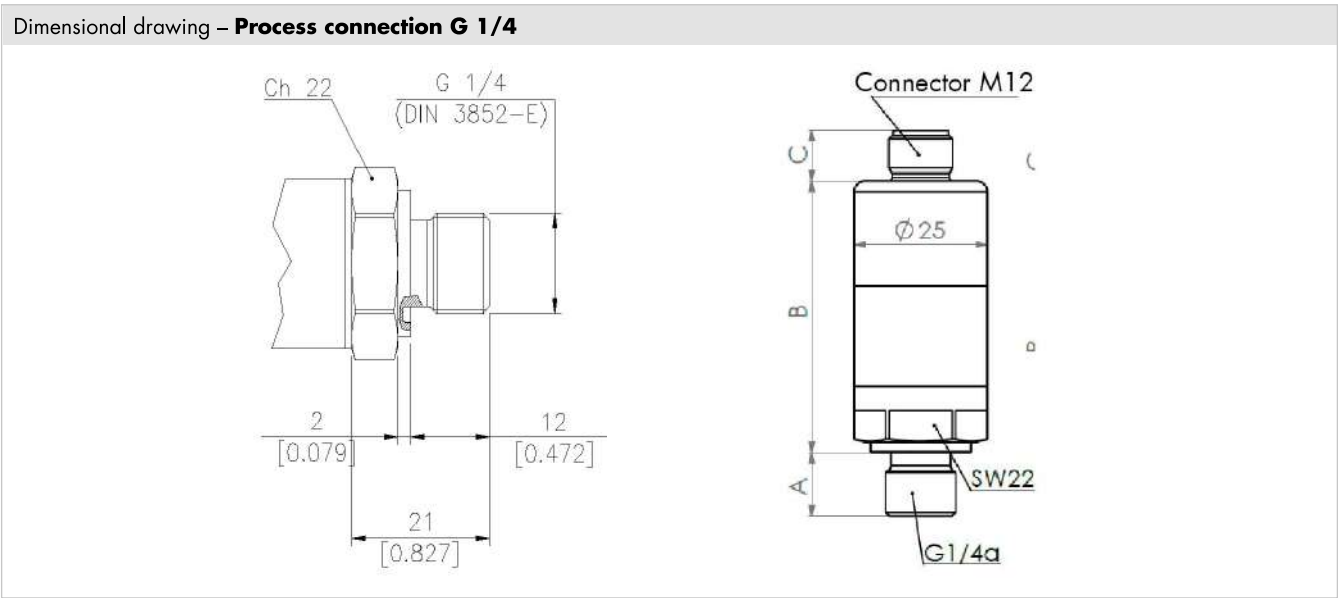
With the „gauge“ measurement type, the pressure measurement is carried out against the ambient pressure, the sensor has a bore that is protected against ambient influences to compensate for the ambient pressure. With the „Absolute“ measurement type, the applied pressure is measured against an enclosed vacuum; this measurement type is available from the measuring range 0 ... 250 mbar. The electrical connection is made via an M12 x 1 connector.

Technical Data

| 8228 | – | 4100 | 4250 | 4500 | 5001 | 5002 | 5005 | 5010 | 5020 | 5035 |
|---|-------|---|------|------|----------------|------|------|------|------|------|
| Measuring range [bar] from 0 ... | | 0.1 | 0.25 | 0.5 | 1 | 2 | 5 | 10 | 20 | 35 |
| Accuracy | | | | | | | | | | |
| Measurement accuracy (Combined error consisting of non-linearity, hysteresis and non-repeatability): | | ≤ ±0.1 % F.S. | | | ≤ ±0.05 % F.S. | | | | | |
| Dead volume at restored diaphragm | | 0.757 cm³ | | | | | | | | |
| Temperature effect on zero signal | | ±0.02 % F.S./K | | | | | | | | |
| Temperature effect on characteristic value | | ±0.02 % F.S./K | | | | | | | | |
| Electrical values | | | | | | | | | | |
| Excitation voltage Voltage output 10 V | | 13 ... 32 V DC | | | | | | | | |
| Excitation voltage 4 ... 20 mA | | 9 ... 32 V DC | | | | | | | | |
| Current consumption Voltage output | | < 5 mA | | | | | | | | |
| Current consumption Current output | | < 32 mA | | | | | | | | |
| Cut-off frequency | | (-3dB) 250 Hz | | | | | | | | |
| Reaction time | | (10 ... 90 % F.S.) < 1 ms | | | | | | | | |
| Load resistance | | max. 1150 Ω at 32 V DC | | | | | | | | |
| Insulation resistance | | > 1000 MΩ at 50 V DC | | | | | | | | |
| Environmental conditions | | | | | | | | | | |
| Rated temperature range | | -20 °C ... +80 °C | | | | | | | | |
| Operating temperature | | -20 °C ... +80 °C | | | | | | | | |
| Mechanical values | | | | | | | | | | |
| Overpressure limit | [bar] | 1 | | | 3 | 8 | 15 | 30 | 90 | |
| Burst pressure | [bar] | 1.4 | | | 4 | 10 | 20 | 40 | 120 | |
| Dynamic performance | | recommended: 70 % F.S. | | | | | | | | |
| 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 | | | | | | | | |
| Protection class (EN 60529) | | IP67 | | | | | | | | |
| Mounting | | | | | | | | | | |
| Mounting torque | [N*m] | 3 | | | | | | | | |
| Other | | | | | | | | | | |
| Material measuring chamber | | stainless steel 1.4404 and 1.445 | | | | | | | | |
| Material housing | | stainless steel AISI 304 | | | | | | | | |
| Weight | [kg] | 0.085 | | | | | | | | |

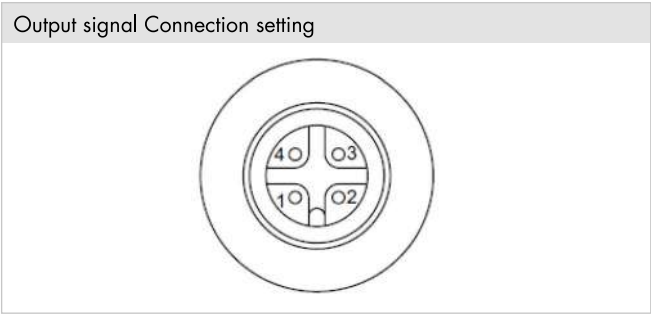
Technical Data

| 8228 | – | 5050 | 5070 | 5100 | 5150 | 5200 |
|---|-------|---|------|------|------|------|
| Measuring range [bar] from 0 ... | | 50 | 70 | 100 | 150 | 200 |
| Accuracy | | | | | | |
| Measurement accuracy (Combined error consisting of non-linearity, hysteresis and non-repeatability): | | ≤ ±0.05 % F.S. | | | | |
| Dead volume at restored diaphragm | | 0.5 cm³ | | | | |
| Temperature effect on zero signal | | ±0.02 % F.S./K | | | | |
| Temperature effect on characteristic value | | ±0.02 % F.S./K | | | | |
| Electrical values | | | | | | |
| Excitation voltage Voltage output 10 V | | 13 ... 32 V DC | | | | |
| Excitation voltage 4 ... 20 mA | | 9 ... 32 V DC | | | | |
| Current consumption Voltage output | | < 5 mA | | | | |
| Current consumption Current output | | < 32 mA | | | | |
| Cut-off frequency | | (-3dB) 250 Hz | | | | |
| Reaction time | | (10 ... 90 % F.S.) < 1 ms | | | | |
| Load resistance | | max. 750 Ω at 30 V DC | | | | |
| Insulation resistance | | > 1000 MΩ at 50 V DC | | | | |
| Environmental conditions | | | | | | |
| Rated temperature range | | -20 °C ... +80 °C | | | | |
| Operating temperature | | -20 °C ... +80 °C | | | | |
| Mechanical values | | | | | | |
| Overpressure limit | [bar] | 250 | | | | |
| Burst pressure | [bar] | 400 | | | | |
| Dynamic performance | | recommended: 70 % F.S. | | | | |
| 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 | | | | |
| Protection class (EN 60529) | | IP67 | | | | |
| Mounting | | | | | | |
| Mounting torque | [N*m] | 3 | | | | |
| Other | | | | | | |
| Material measuring chamber | | stainless steel 1.4404 and 1.445 | | | | |
| Material housing | | stainless steel AISI 304 | | | | |
| Weight | [kg] | 0.085 | | | | |



For detailed dimensions, you can find the CAD data of the sensor on our website www.burster.com

Electrical connections



| Connection setting | | |
|--------------------|---------------------|----------------|
| Pin | voltage output | current output |
| 1 | excitation + | connection + |
| 2 | NC | NC |
| 3 | common ground (GND) | connection - |
| 4 | signal + | NC |

Accessories

| Order code | | |
|------------|--|--|
| 9900-K303 | | Connecting cable with coupling plug M12 x 1, 3 m, open cable ends |
| 9900-K304 | | Connecting cable with coupling plug M12 x 1, 5 m, open cable ends |
| 9900-V624 | | Mating connector coupling plug M12 x 1, series 713 (included in scope of delivery) |
| 8200-Z001 | | Sealing ring for 1/4" connection |

Calibration

| Test and calibration certificate | | |
|---|--|--|
| Included in scope of delivery of sensor | | Amongst other data, includes figures for zero point, full-scale output and calibration offset |
| Standard factory calibration certificate for load cells or measurement chains (WKS) | | |
| Optionally available | | Our standard factory calibration certificate includes 11 measurement points, starting at zero, spread evenly in 20% steps over the full measuring range, for increasing and decreasing pressure. |
| Special factory calibration certificate for load cells or measurement chains (WKS) | | |
| On request | | We are happy to calibrate sensors and measurement chains to the customer's specification. |
| DAkkS-Kalibrierschein für Sensoren und Messketten (DKD) | | |
| Optionally available | | Our DAkkS-certified calibration laboratory provides calibration certificates to DIN EN ISO 376. The calibration certificate includes 21 measurement points, starting at zero, spread evenly in 10% steps over the measuring range, for increasing and decreasing pressure. |

Order Code

| Measuring range | Code |
|-----------------|---------|
| 0 ... 0.1 bar | 4 1 0 0 |
| 0 ... 0.25 bar | 4 2 5 0 |
| 0 ... 0.5 bar | 4 5 0 0 |
| 0 ... 1 bar | 5 0 0 1 |
| 0 ... 2 bar | 5 0 0 2 |
| 0 ... 5 bar | 5 0 0 5 |
| 0 ... 10 bar | 5 0 1 0 |
| 0 ... 20 bar | 5 0 2 0 |
| 0 ... 35 bar | 5 0 3 5 |
| 0 ... 50 bar | 5 0 5 0 |
| 0 ... 70 bar | 5 0 7 0 |
| 0 ... 100 bar | 5 1 0 0 |
| 0 ... 150 bar | 5 1 5 0 |
| 0 ... 200 bar | 5 2 0 0 |

| | | | | | | | | | | Delivery ex stock at short notice | | | | | |
|--|---|---|---|---|--|--|--|--|---|-----------------------------------|---|---|---|---|---|
| | | | | | | | | | | V | 1 | 4 | 4 | 0 | |
| 8 | 2 | 2 | 8 | - | | | | | - | V | | | | | |
| | | | | | | | | | | | | | | | |
| ■ Option relative measurement | | | | | | | | | | | 1 | | | | |
| ■ Option absolute measurement (possible from 0.25 bar) | | | | | | | | | | | 2 | | | | |
| ■ 4 pin connector M12 x 1, 4 pin, series 713 | | | | | | | | | | | | 4 | | | |
| ■ Voltage output 0 ... 10 V | | | | | | | | | | | | | 4 | | |
| ■ Current output 4 ... 20 mA, 2 wire | | | | | | | | | | | | | 8 | | |
| ■ External thread G 1/4" (DIN 3852 A) | | | | | | | | | | | | | | | 0 |