

## 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  $\leq 1$  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.

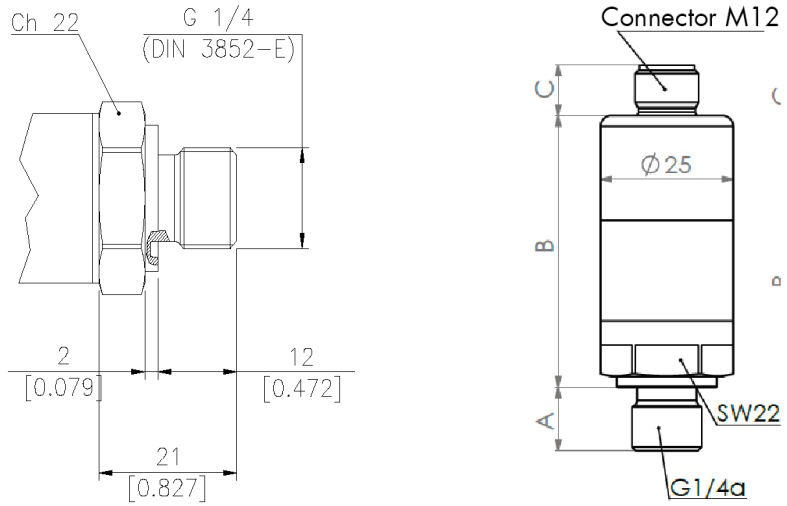
## Technical Data

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
<b>Accuracy</b>										
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 cm <sup>3</sup>								
Temperature effect on zero signal		±0.02 % F.S./K								
Temperature effect on characteristic value		±0.02 % F.S./K								
<b>Electrical values</b>										
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								
<b>Environmental conditions</b>										
Rated temperature range		-20 °C ... +80 °C								
Operating temperature		-20 °C ... +80 °C								
<b>Mechanical values</b>										
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								
<b>Mounting</b>										
Mounting torque	[N*m]	3								
<b>Other</b>										
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
<b>Accuracy</b>						
Measurement accuracy (Combined error consisting of non-linearity, hysteresis and non-repeatability):		≤ ±0.05 % F.S.				
Dead volume at restored diaphragm		0.5 cm <sup>3</sup>				
Temperature effect on zero signal		±0.02 % F.S./K				
Temperature effect on characteristic value		±0.02 % F.S./K				
<b>Electrical values</b>						
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				
<b>Environmental conditions</b>						
Rated temperature range		-20 °C ... +80 °C				
Operating temperature		-20 °C ... +80 °C				
<b>Mechanical values</b>						
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				
<b>Mounting</b>						
Mounting torque	[N*m]	3				
<b>Other</b>						
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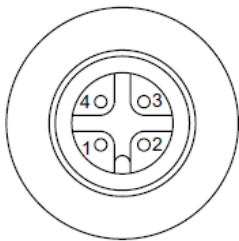
Dimensional drawing – **Process connection G 1/4**



For detailed dimensions, you can find the CAD data of the sensor on our website [www.burster.com](http://www.burster.com)

### Electrical connections

Output signal Connection setting



**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

<b>Test and calibration certificate</b>	
Included in scope of delivery of sensor	Amongst other data, includes figures for zero point, full-scale output and calibration offset
<b>Standard factory calibration certificate for load cells or measurement chains (WKS)</b>	
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.
<b>Special factory calibration certificate for load cells or measurement chains (WKS)</b>	
On request	We are happy to calibrate sensors and measurement chains to the customer's specification.
<b>DAkkS-Kalibrierschein für Sensoren und Messketten (DKD)</b>	
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
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8	2	2	8	-					-	V				
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■ 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