

Pressure Transmitter

MODEL 8227



Highlights

- Measurement ranges of 0 ... 0.05 bar to 0 ... 500 bar
- Accuracy from 0.25 % F.S.
- Built-in instrumentation amplifier with output 0 ... 10 V
- Process connection thread G 1/4 inch
- Protection class IP65/67

Options

- Vacuum measuring ranges -1 ... +1 bar to -1 ... +10 bar
- Absolute measurement type
- Process connection thread G 1/2 inch
- Flush diaphragm in G 1/4 inch or M10 x 1
- Electrical connection M12 x 1
- Current output 4 ... 20 mA

Applications

- Controlling and monitoring of production facilities
- Monitoring of hydraulic systems
- Cooling and air-conditioning systems
- Manufacturing systems

Product description

With its rugged housing 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 or current signals that can be transmitted over relatively long distances. For high viscous materials, a front-level membrane M12 x 1 is available, and with this disruptive dead volumes can be expelled.

The sensor has a small protected hole on the rear to allow measurement of atmospheric pressure (measurement type relative). 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, 4-pin connection is available.



Flush diaphragm external thread G 1/4"



4-pin connector M12 x 1

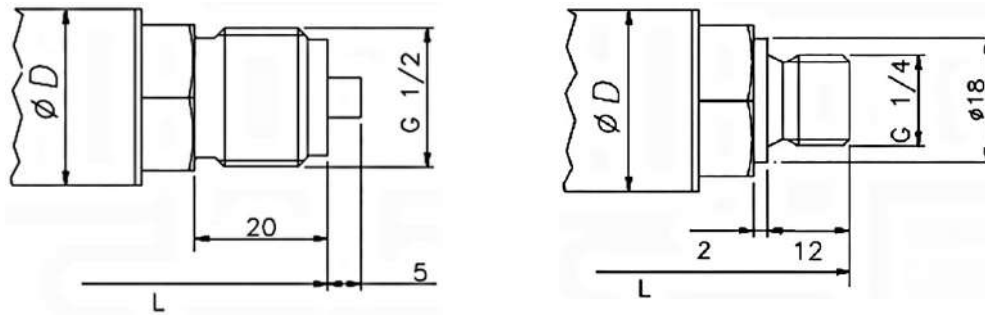
Technical Data

8227	-	4050	4100	4250	4500	5001	5002	5005	5010	5020
Measuring range [bar] from 0 ...		0.05	0.1	0.25	0.5	1	2	5	10	20
Accuracy										
Measurement accuracy (Combined error consisting of non-linearity, hysteresis and non-repeatability):		≤ ±0.25 % F.S. relative, ≤ ±0,5 % F.S. absolute								
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		15 ... 30 V DC								
Excitation voltage Voltage output 5 V, 4 ... 20 mA		10 ... 30 V DC								
Current consumption Voltage output		< 13 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		-10 °C ... +85 °C								
Operating temperature		-20 °C ... +85 °C						-40 °C ... +105 °C		
Mechanical values										
Overpressure limit		400 % over capacity						100 % over capacity		
Burst pressure		900 % over capacity						300 % over capacity, max. 1200 bar		
Size		A						B		
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)		IP65, with connector M12 x 1: IP67								
Mounting										
Mounting torque	[N*m]	3								
Other										
Material measuring chamber		stainless steel AISI 316, AISI 304, NBR, Viton					stainless steel AISI 430 F			
Material housing		stainless steel AISI 304, Nylon 66F35VO								
Weight	[kg]	0.11								

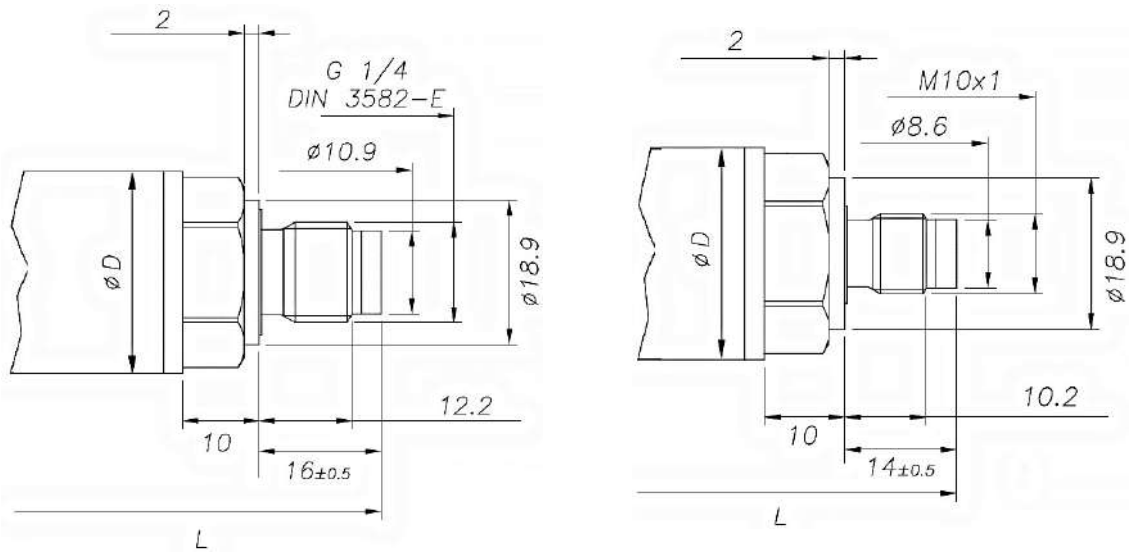
Technical Data

8227	–	5030	5050	5100	5200	5350	5500
Measuring range [bar] from 0 ...		30	50	100	200	350	500
Accuracy							
Measurement accuracy (Combined error consisting of non-linearity, hysteresis and non-repeatability):		≤ ±0.25 % F.S. relative, ≤ ±0,5 % F.S. absolute					
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		15 ... 30 V DC					
Excitation voltage Voltage output 5 V, 4 ... 20 mA		10 ... 30 V DC					
Current consumption Voltage output		< 13 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		-10 °C ... +85 °C					
Operating temperature		-40 °C ... +105 °C					
Mechanical values							
Overpressure limit		100 % of capacity					
Burst pressure		300 % over capacity, max. 1200 bar					
Size		B					
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)		IP65, with connector M12 x 1: IP67					
Mounting							
Mounting torque	[N*m]	3					
Other							
Material measuring chamber		stainless steel AISI 430 F					
Material housing		stainless steel AISI 304, Nylon 66F35VO					
Weight	[kg]	0.11					

Dimensional drawing – **Process connection G 1/4, G 1/2 internal diaphragm**



Dimensional drawing – **Process connection G 1/4, M10 x 1 front flush diaphragm**



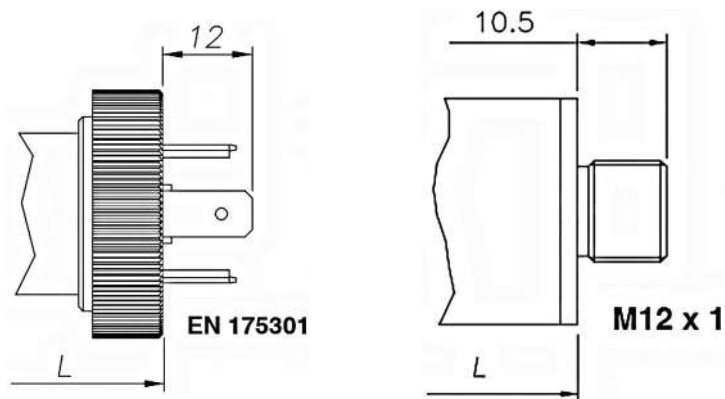
Size A: L 82 mm, Ø D 22 mm; **Size B:** L 72 mm, Ø D 26.5 mm

Size in connection with option absolute messend (-V2xxx) always A

Size in connection with option -1 bar (-V3xxx) always B

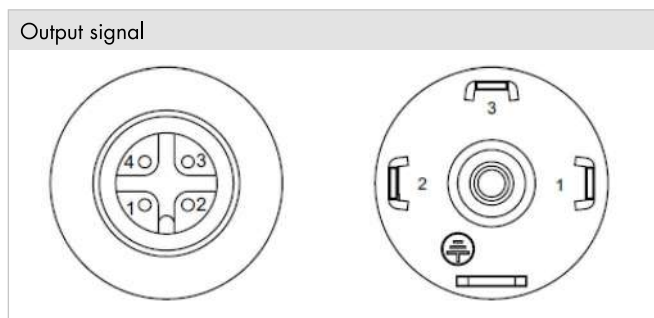
Size in connection with option front flush (-Vxxx1) always B

Electrical connections



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

Electrical connections



Connection setting

Pin	voltage output	current output
1	Signal +	connection +
2	common ground (GND)	connection -
3	power +	NC
4/E	housing	housing

Accessories

Order code		
99654-000C-0090030		Connecting cable with coupling plug EN 175301, 3m, open cable ends
9900-K304		Connecting cable with coupling plug M12 x 1,5m, open cable ends
99209-654B-0090030		Connecting cable with coupling plug EN175301 and Sub-D 9-pin, 3m, suitable for 7281, 9311
9900-V654		Mating connector coupling plug EN 175301 (included in scope of delivery)
9900-V624		Mating connector coupling plug M12 x 1, series 713 (included in scope of delivery)
8200-Z001		Sealing ring or 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 ... 0.05 bar	4	0	5	0
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 ... 50 bar	5	0	5	0
0 ... 100 bar	5	1	0	0
0 ... 200 bar	5	2	0	0
0 ... 350 bar	5	3	5	0
0 ... 500 bar	5	5	0	0

Delivery ex stock at short notice				
V	1	3	4	0

8	2	2	7	-					-	V				
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■ Option relative measurement	1		
■ Option absolute measurement	2		
■ Option measuring range start - 1 bar	3		
■ 4 pin EN 175301-803/DIN 43650A	3		
■ 4 pin connector M12 x 1, 4 pin, series 713	4		
■ Voltage output 0 ... 5 V	3		
■ Voltage output 0 ... 10 V	4		
■ Current output 4 ... 20 mA, 2 wire	8		
■ External thread G 1/4" (DIN 3852 A)			0
■ External thread G 1/2" (DIN 16288)			1
■ Front flush diaphragm external thread G 1/4" (DIN 3852 A)			2
■ Front flush diaphragm external thread M 10 x 1			3

SIL2/ATEX certification on request.