

Pressure Sensors for general Application

with internal diaphragm
for gauge pressure and absolute pressure

Accuracy 0.25% and 0.5%

Standard output: 4 ... 20 mA; 2-wire system
or 0 ... 5 VDC; 3-wire system
or 0 ... 10 VDC; 3-wire system



Description

Pressure sensors for general application are top of the range pressure transducers.

Their accuracy, reliability, resistance to corrosion and mechanical load make them suitable for all pressure measuring tasks - in production, development or in the laboratory.

The measuring ranges, graded in accordance with EN, range from 25 mbar to the maximum pressure range of 4000 bar. The case and wetted parts comprise stainless steel and are thus resistant to chemically aggressive media. The pressure connection and measuring element are welded together, making the measuring system particularly resistant to mechanical shock or vibration.

For more difficult measuring tasks (e.g. hydrostatic column), two potentiometers enable the zero point and measuring range to be set.

The pressure sensors for general application meet the electronic magnetic compatibility (EMC) requirements to EN 61326.

Features

- Measuring ranges from 25 mbar to 2500 bar
- Finely graded selection of nominal pressure ranges according to EN
- Corrosion resistant, stainless steel design
- High overload protection
- Highly resistant to shock and vibration
- For dynamic or static measurements
- Good reproducibility
- Simple installation

Measuring ranges

Gauge pressure		
negative	-1 ... 0 bar	to -0.025 ... 0 bar
positive	0 ... 0.025 bar	to 0 ... 2500 bar
Absolute pressure	0 ... 0.25 bar	to 0 ... 16 bar

Applications

Development and laboratory, Process engineering, Plant and apparatus construction, Hydraulics and pneumatics.

Models: 3245, 3248, 3272, 3276, 3277, 3376, 3377

Technical data

Model	3276	3277	3376	3377	3245	3248	Option
Pressure type	negative or positive gauge pressure				absolute pressure		negative and positive gauge pressure
Output signal	4 ... 20 mA - 2-wire system 0 ... 5 VDC - 3-wire system 0 ... 10 VDC - 3-wire system						0 ... 20 mA; 3-wire system other signals on request
Accuracy % of F. S. ¹⁾	0.5	0.25	0.5	0.25	0.5	0.25	
Ranges accord. to EN	0 ... 0.1 bar ²⁾ to 0 ... 16 bar		0 ... 25 bar to 0 ... 4000 bar		0 ... 0.25 bar to 0 ... 16 bar		0 ... 25 mbar ³⁾ 0 ... 40 mbar 0 ... 60 mbar
Sensor element	piezoresistive		Thin film		piezoresistive		
Repeatability	≤ ± 0.05% of F. S.						
Stability (annual)	≤ ± 0.2% of F. S. in rated conditions						
Case	Stainless steel						
Pressure connection ⁴⁾	G 1/2 B to DIN 16288						G 1/4 B; 1/4 NPT; 1/2 NPT
Wetted parts	Stainless steel 1.4571 and 1.4542						
Overload limit	≤ 16 bar 3,5 x; ≤ 600 bar 2 x; > 600 bar 1.5 x; ≥ 1600 bar 1,2 x						
Electrical connection	plug according to DIN 43650 with junction box round connector M12x1; 4-pin						cable outlet with 1 m cable
Power supply	10 ... 30 VDC (14 ... 30 VDC for output 0 ... 10 V)						
Power consumption	current output 4 ... 20 mA: signal currency current output 0 ... 20 mA: signal currency + 4 mA voltage output: 8 mA						
Load	$\leq \frac{UB - 12 V}{0.020 A}$ for output (0) 4 ... 20 mA $> 5 \text{ k}\Omega$ for output 0 ... 5 V $> 10 \text{ k}\Omega$ for output 0 ... 10 V						
Temp. compens. range	0 ... 80 °C						
Temperature influence							
- Zero point	± 0.2% / 10 K ⁵⁾						
- Measuring range	± 0.2% / 10 K						
Adjustability	zero point and full scale up to ± 10%						
Response time	≤ 1 ms (within 10% to 90% of F. S.)						
Protection type	IP 65 to EN 60529/IEC 529 IP 67 to M12x1 connector						IP 67 for cable outlet
Emission ⁶⁾	according to EN 61326						
Interference ⁶⁾	according to EN 61326						
Electrical protection types	polarity, overload and short-circuit protection						
Temperature ranges							media temperature -40 ... 125 °C
- Storage	-40 ... 100 °C						
- Medium	-30 ... 100 °C						
- Ambient	-20 ... 80 °C						
Weight	approx. 0.2 kg						

¹⁾ Terminal point adjustment according to DIN 16086, incl. linearity and hysteresis

of F. S. = of full scale value

²⁾ 0.25% accuracy for ranges ≥ 0.25 bar

³⁾ For ranges < 0.1 bar: model 3275; technical data as model 3276;
wetted parts 1.4571, Si, Al and Au; only applicable for dry and non aggressive gases

⁴⁾ ≥ 0 ... 2500 bar; M 16 x 1.5 female

⁵⁾ ≤ ± 0,4%/10 K for measuring ranges 0 ... 0.1 and 0 ... 0.16 bar

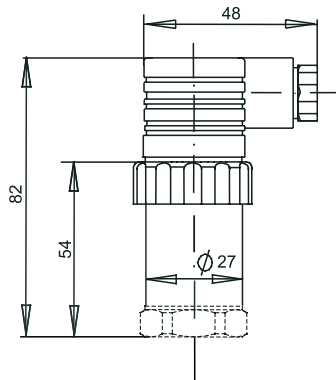
⁶⁾ Declaration of conformity on request

Dimensions (mm)

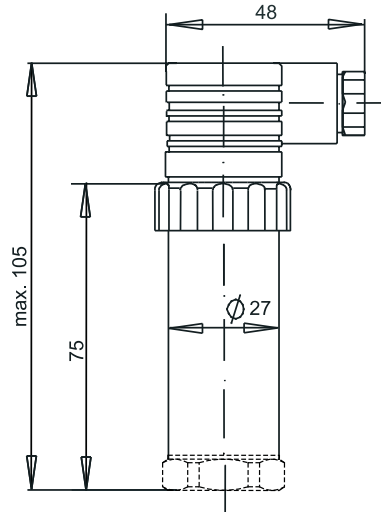
Case

Plug according to DIN 43 650

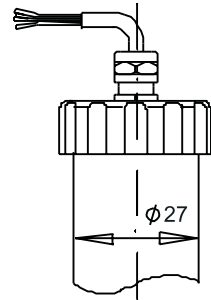
Accuracy 0.5%



Accuracy 0.25%

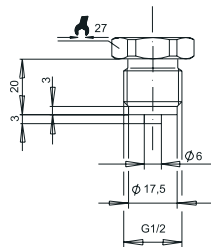


cable outlet

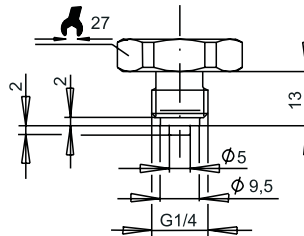


Pressure connections

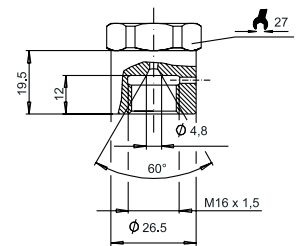
G 1/2 B



G 1/4 B

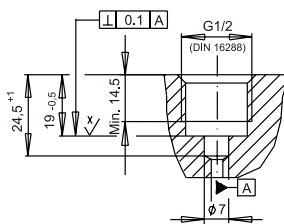


High pressure connection
M16x1.5 female

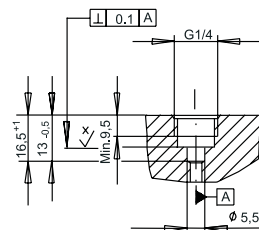


Screw-in aperture according to DIN 16 288

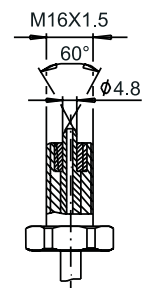
G 1/2



G 1/4



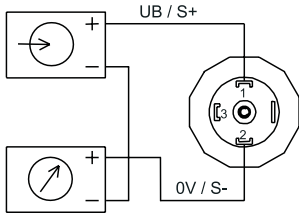
High pressure connection
M16x1.5 female



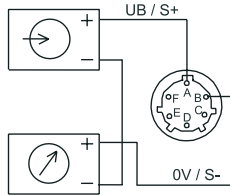
Electrical connection

Two-wire system

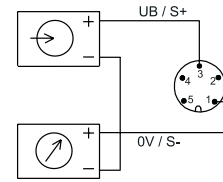
DIN 43 650 plug



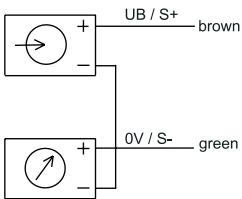
MIL-plug PT 02 E-10 6P



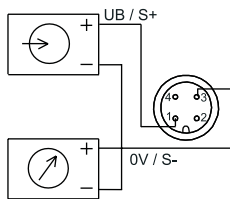
5-pin plug



cable outlet

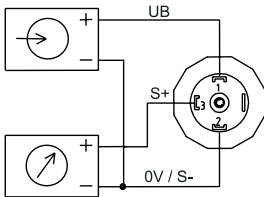


M12x1

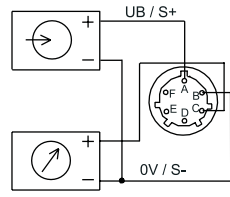


Three-wire system

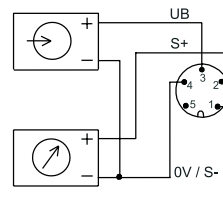
DIN 43 650 plug



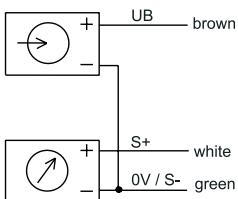
MIL-plug PT 02 E-10 6P



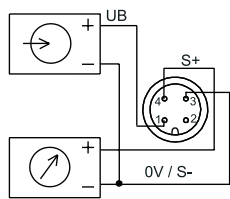
5-pin plug



cable outlet



M12x1



Connection table for DIN plug or cable outlet

	4 ... 20 mA (2-wire)		0 ... 10 VDC (3-wire)	
Supply: UB+	1	brown	1	brown
Supply: 0V	2	green	2	green
Signal: S+	--	--	3	white
Signal: S-	--	--	2	green

Order details

1. Model
2. Measuring range
3. Output signal
4. Options

Modifications reserved