

Pressure Sensors for general Application

with front flush 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 rating make them suitable for all pressure measuring tasks - in production, development or in the laboratory.

The front flush pressure diaphragm avoids zones, in which medium could crystallize or residues could form, thus ensuring trouble-free pressure measurement and hygienic cleaning of the pressure sensors.

The measuring ranges, graded in accordance with EN, range from 0.1 bar to 600 bar. The case and wetted parts comprise stainless steel and are thus resistant to chemically aggressive media. With the aid of an integrated cooling element, the sensors can be supplied with medium temperatures up to 150 °C.

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 61 326.

Features

- For pasty or crystallizing media
- 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 repeatability
- Integrated cooling element for medium temperatures up to 150 °C

Measuring ranges

Gauge pressure		
negative	-1 ... 0 bar	to -0.1 ... 0 bar
positive	0 ... 0.01 bar	to 0 ... 600 bar
Absolute pressure	0 ... 0.25 bar	to 0 ... 16 bar

Application

Process engineering,
Plant and apparatus design,
Development and laboratory applications

Models: 3251, 3252, 3255, 3256, 3344, 3386

Technical data

Model	3251	3252	3386	3344	3255	3256	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 ... 600 bar		0 ... 0.25 bar to 0 ... 16 bar		
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	≤ 0 ... 1.6 bar G 1 B; ≥ 0 ... 2.5 bar G 1/2 B						
Wetted parts	Stainless steel 1.4571						
Overload limit	≤ 16 bar 3.5 x; ≤ 600 bar 2 x; vacuum resistant						
Electrical connection	Plug 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	output 4 ... 20 mA: signal current output 0 ... 20 mA: signal current + 4 mA voltage output: 8 mA						
Load	$\leq \frac{U_B - 12\text{ V}}{0.020\text{ A}}$ for output 4(0) ... 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 ³⁾						
- Measuring range	± 0.2%/10 K						
Adjustability	zero point and measuring range up to ± 10%						
Response time	≤ 1 ms (within 10% to 90% of F. S.)						
Protection type	IP 65 to EN 50629/IEC 529						IP 67 for cable outlet
Emission ⁴⁾	to EN 61326						
Interference ⁴⁾	to EN 61326						
Electrical protection types	polarity-, overload- and short-circuit-protection						
Temperature ranges							Medium temperature -40 ... 125 °C integrated cooling element for temperatures up to 150 °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 only for ranges ≥ 0.25 bar

³⁾ ≤ ± 0.4% / 10 K for measuring ranges 0 ... 0.1 and 0 ... 0.16 bar

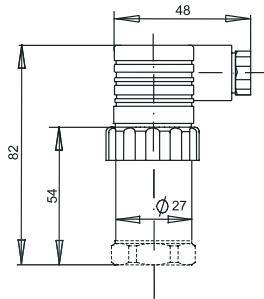
⁴⁾ Declaration of conformity on request

Dimensions (mm)

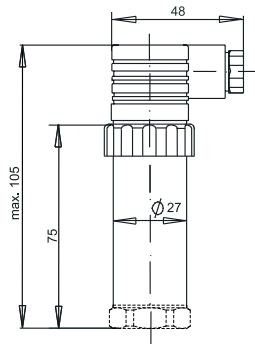
Case

Plug according to DIN 43 650

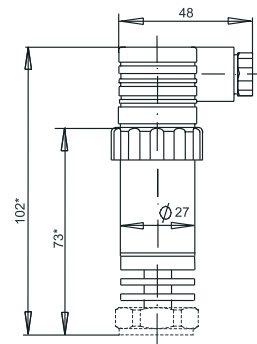
Accuracy 0.5%



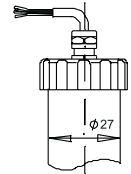
Accuracy 0.25%



with integrated cooling element

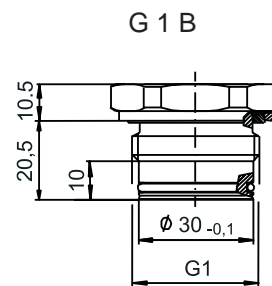
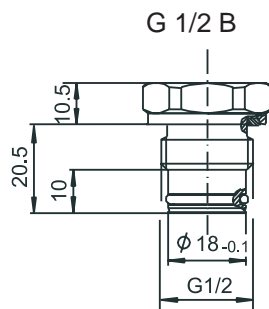


cable outlet

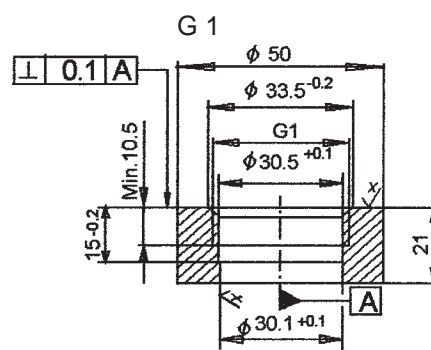
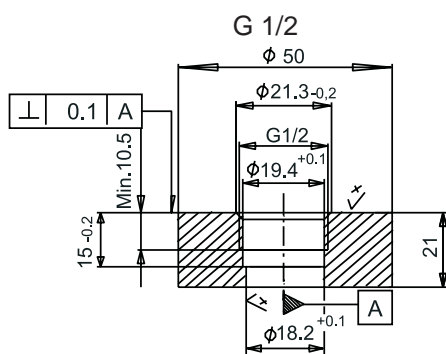


* for long version + 22 mm

Pressure connections



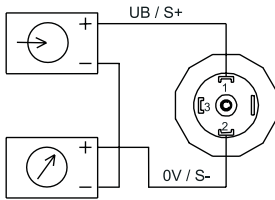
Weld-on socket or screw-in aperture



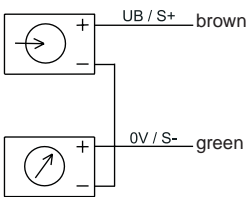
Electrical connection

Two-wire system

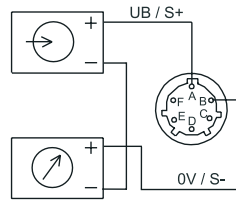
DIN 43 650 plug



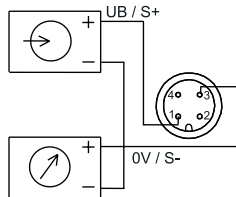
cable outlet



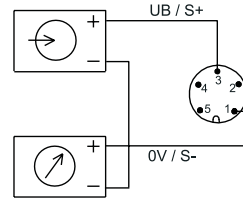
MIL-plug PT 02 E-10 6P



M12x1

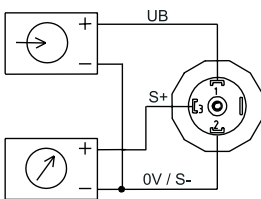


5-pin plug

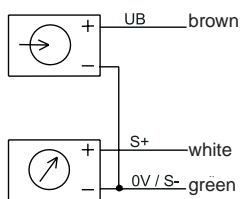


Three-wire system

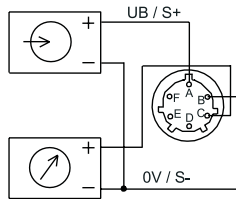
DIN 43 650 plug



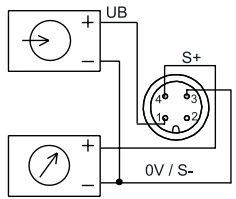
cable outlet



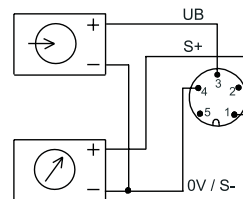
MIL-plug PT 02 E-10 6P



M12x1



5-pin plug



Connection table for DIN plug or cable outlet

	4 ... 20 mA (2-wire)		0 ... 10 VDC (3-wire)	
	1	2	1	2
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

Subject to technical changes