Nöding
Messtechnik

P20
2. Generation

Datasheet Pressure Transmitter P20

PERFORMANCE FEATURES

- Flush process connection
- High overload capability
- Dry ceramic sensor
- Accuracy ≤ 0,2 %
- Smallest measuring range: 0…50 mbar
- Largest measuring range: 0…40 bar
- Negative pressure measuring range: up to -1 bar
- Analog output: 4…20 mA, 2-wires
  0…10 V 3-wires
- Optional for media up to 125 °C

The P20 pressure transmitter is designed for use in applications where media tend to deposit and clog the sensor. A compact front-flush process connection prevents hidden edges and drill holes, in combination with a resistant ceramic sensor, optimal cleaning and maintenance can be ensured. The capacitive measuring principle enables a very accurate and long-term stable measurement, even at lowest pressures and high overload resistance. Its compact housing is made of high-quality stainless steel 1.4404 and is therefore suitable for almost all media. Our modular design concept provides a wide variety of products. Feel free to contact us if you need a customization that is not listed in this Datasheet.

AREAS OF APPLICATION

- Viscous and pasty media
- Hygiene applications
- Liquid media
- Gaseous media
- Aggressive Media

2. GENERATION

- Improved signal characteristics
- Lower temperature effect
- Increased electromagnetic compatibility
- Shorter design
- 1:1 exchangeable with 1st generation

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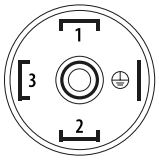
TECHNICAL DATA

Measuring range	
Preassure range	see table „Measuring ranges“ others on request
Output	
Analog output	4 …20 mA 2-wires 0 …10 V 3-wires
Power supply	
20 mA output	9…30 V DC
10 V output	15…30 V DC
Signal characteristics	
Accuracy	≤ ± 0,2 % FS @ 25 °C ≤ ± 0,5 % FS @ 25 °C at pressure range < 100 mbar
Long term stability	≤ ± 0,2 % FS / Year
Response time	200 ms - others on request
Switch-on time	< 1 s
Temperature coefficient	
Nullpunkt	≤ ± 0,01 % FS / Kelvin
Spanne	≤ ± 0,01 % FS / Kelvin
Temperature ranges	
Medium temperature	-25…100 °C -25…125 °C high temperature version
Surrounding temperature	-25…80 °C -25…85 °C high temperature version
Storage temperature	-40…85 °C
Electrical protections	
Short-circuit resistance	Permanent
Reverse polarity protection	Protection against reverse polarity, but no function
Electromagnetic compatibility	Interference emissions and immunity acc. to EN 61326
Wetted materials	
Process connection	Stainless steel 1.4404 or PVDF
Sensor	Ceramic Al_2O_3
Sensor seal	FPM (Viton), EPDM , FFKM (Chemraz / Kalrez)
Surroundings	
Protection type	IP 67
Exemplary weight	
P20-400-1110 (figure p. 1)	Approx. 150 g

ELECTRICAL CONNECTION

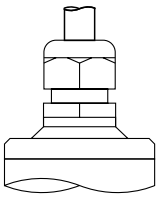
Connector EN 175301-803A



4…20 mA 2-wires
PIN 1: Signal +
PIN 2: Signal –

0 …10 V 3-wires
PIN 1: in +
PIN 2: in -
PIN 3: out +

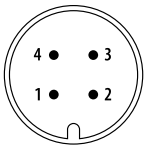
Cable connection



4…20 mA 2-wires
red: Signal +
black: Signal –

0 …10 V 3-wires
red: in +
black: in -
white: out +

M12 Connector



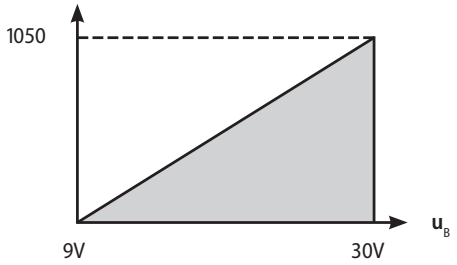
4…20 mA 2-wires
PIN 1: Signal +
PIN 3: Signal –

0 …10 V 3-wires
PIN 1: in +
PIN 3: in -
PIN 4: out +

LOAD

R_B / Ω

$$R_{B_{max}} = \frac{U_B - 9\ V}{0{,}02\ A}$$



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MEASURING RANGES

ranges	relative	overload (bar)
0…50 mbar / 0…5 kPa*	B0	-0,7/2,7
0…60 mbar / 0…6 kPa*	A9	-0,7/2,7
0…100 mbar / 0…10 kPa	00	-0,7/2,7
0…160 mbar / 0…16 kPa	01	-1/3,3
0…200 mbar / 0…20 kPa	B1	-1/3,3
0…250 mbar / 0…25 kPa	02	-1/4
0…300 mbar / 0…25 kPa	X5	-1/4
0…400 mbar / 0…40 kPa	03	-1/4
0…500 mbar / 0…50 kPa	B7	-1/6,7
0…600 mbar / 0…60 kPa	04	-1/6,7
0…1 bar / 0…100 kPa	05	-1/6,7
0…1,6 bar / 0…160 kPa	06	-1/12
0…2 bar / 0…200 kPa	B3	-1/12
0…2,5 bar / 0…250 kPa	07	-1/16,7
0…4 bar / 0…400 kPa	08	-1/16,7
0…5 bar / 0…500 kPa	F1	-1/26,7
0…6 bar / 0…600 kPa	09	-1/26,7
0…10 bar / 0…1 MPa	10	-1/26,7
0…16 bar / 0…1,6 MPa	11	-1/26,7
0…20 bar / 0…2 MPa	B5	-1/26,7
0…25 bar / 0…2,5 MPa	12	-1/40
0…40 bar / 0…4 MPa **	13	-1/40
-100…0 mbar / -10…0 kPa	C4	-0,7/2,7
-100…100 mbar / -10…10 kPa	C5	-0,7/2,7
-200…0 mbar / -20…0 kPa	D2	-1/3,3
-200…200 mbar / -20…20 kPa	D3	-1/3,3
-1…0 bar / -100…100 kPa	D4	-1/6,7
-1…1 bar / -100…100 kPa	D6	-1/6,7
-1…3 bar / -100…300 kPa	D8	-1/16,7
-1…5 bar / -100…500 kPa	D9	-1/26,7
-1…9 bar / -100…900 kPa	E1	-1/26,7
-1…15 bar / -0,1…1,5 MPa	E2	-1/26,7
-1…19 bar / -0,1…1,9 MPa	E3	-1/26,7
-1…20 bar / -0,1…2 MPa	E8	-1/26,7
-1…25 bar / -0,1…2,5 MPa	E7	-1/40
-1…40 bar / -0,1…4 MPa **	F9	-1/40

* Accuracy 0,5%
** not available in PVDF
[1] For G1/2" and process seal FFKM, the thread seal is FPM as standard, EPDM optionally.

ORDERING CODE

Output signal
1 0…10 V 3-wires
4 4…20 mA 2-wires
H 4…20 mA 2-wires, high temperature -25…125 °C

Ranges
Measuring ranges see table
99 Non-standard range (on request)

Process connection and material
1 G 1/2 A, DIN EN ISO 1179-2, 1.4404
QE G 3/4 A, DIN EN ISO 1179-2, 1.4404
Q G 3/4 A, DIN EN ISO 1179-2, PVDF
9 Others (on request)

Sensor seal
1 FPM (Viton), standard
2 NBR (Perbuan), max. 80 °C
3 EPDM
9 Others (on request)

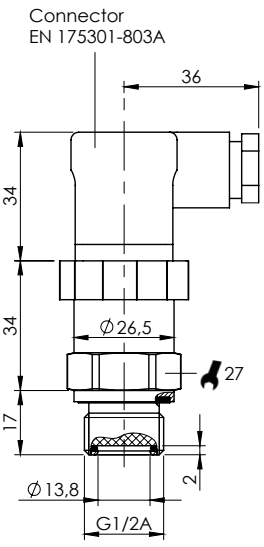
Electrical connection
A Connector M12x1 4-pole
1 Connector EN 175301-803A
6 2 m cable
0 5 m cable
H 10 m cable
R 25 m cable
9 Others (on request)

Version
0 Without potted electronics
1 Potted electronics

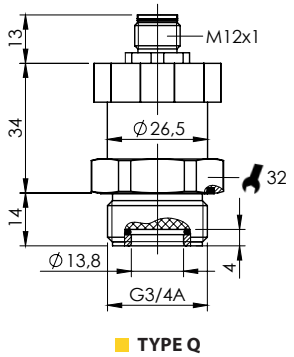
Options
01 0,1% Accuracy (>=100mbar)

P20 – – …

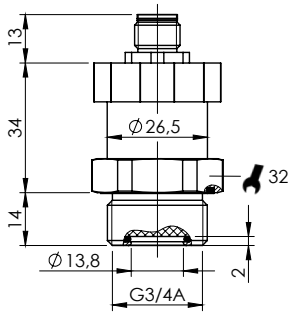
DIMENSIONS



PROCESS CONNECTION **TYPE1**



TYPE Q



TYPE QE

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