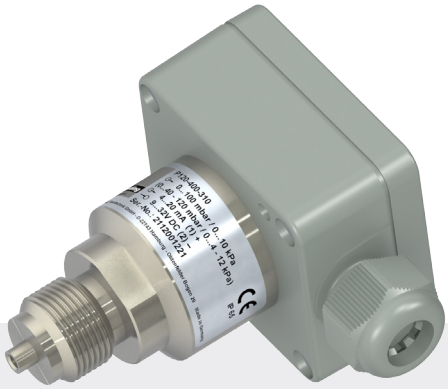
Nöding
Messtechnik

P120



Datasheet Pressure Transmitter P120

PERFORMANCE FEATURES

- Dry capacitive ceramic sensor
- Smallest measuring range: 0…20 mbar
- Largest measuring range: 0…60 bar
- Negative pressure measuring range: up to -1 bar
- Accuracy ≤ 0,2%
- High overload capability
- Rugged design
- Adjustable on site
- DNV certified
- Analog output: 4…20 mA, 2-wires
  0…20 mA, 2-wires
  0…10 V, 3-wires

AREAS OF APPLICATION

- Gaseous media
- Liquid media
- Abrasive media
- Aggressive media
- Maritime applications

The P120 model is characterized by its on-site adjustment capability. The measuring range can be fine-tuned subsequently and the cable is connected directly to the integrated clamps. The analog output can be switched from 4-20 mA to 0-20 mA or reconnected to 0-10 V at any time. The ceramic sensor element is resistant to aggressive and abrasive media. The capacitive measuring principle enables a very accurate and long-term stable measurement even at lowest pressures and high overload resistance. The process connection is made of high quality stainless steel 1.4404 and is therefore suitable for almost all media. The upper housing part is optionally available in polyamide for cost-sensitive areas, or stainless steel for harsh surroundings. 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.

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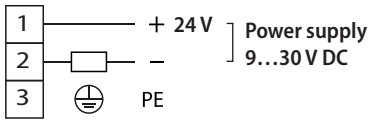
TECHNICAL DATA

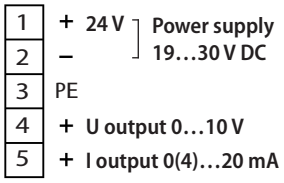
Measuring range	
Pressure range	See table „Measuring ranges“ others on request
Output	
Analog output	(0)4…20 mA 2-wires (switchable) 0…10 V 3-wires
Power supply	
20 mA output	9…30 V DC
10 V output	19…30 V DC
Signal characteristics	
Accuracy	≤ ± 0,2 % FS @ 25 °C ≤ ± 0,5 % FS @ 25 °C with pressure range ≤ 100 mbar
Long term stability	≤ ± 0,15 % FS / Year
Response time	200 ms - others on request
Swich-on time	< 1 s
Temperature coefficient	
Zero	≤ ± 0,015 % FS / Kelvin
Span	≤ ± 0,01 % FS / Kelvin
Temperature ranges	
Medium temperature	-40…100 °C (125 °C < 0,5 h)
Surrounding temperature	-25…80 °C, 2-wires or 0…70 °C 3-wires
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
Mechanical resistance	
Vibration	4g with 3-axis resonance frequency according to DIN EN 60068-2-6:2008
Wetted materials	
Process connection	Stainless steel 1.4404
Sensor	Ceramic Al_2O_3
Sensor seal	FPM (Viton), NBR, EPDM, FFKM (Chemraz / Kalrez)
Surroundings	
Protection type	IP 65
Exemplarisches Gewicht	
P120-400-310 (figure p. 1)	Approx. 350 g

ELECTRICAL CONNECTION

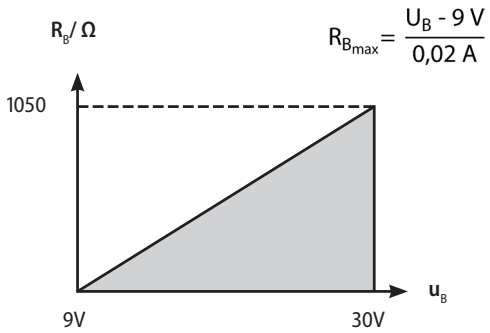
4…20 mA, 2-wires



0…10 V / 0(4)…20 mA, 3-wires



LOAD



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MEASURING RANGES

Measuring ranges	Relative	Absolute	Adjustable range	Overload (bar)
0…20 mbar / 0…2 kPa *	A6		20…50 mbar / 2…5 kPa	-0,3/4
0…25 mbar / 0…2,5 kPa*	A7		20…50 mbar / 2…5 kPa	-0,3/4
0…40 mbar / 0…4 kPa *	A8		30…100 mbar / 3…10 kPa	-0,3/4
0…60 mbar / 0…6 kPa*	A9		30…100 mbar / 3…10 kPa	-0,3/4
0…100 mbar / 0…10 kPa	00		40…120 mbar / 4…12 kPa	-0,6/5
0…160 mbar / 0…16 kPa	01		60…200 mbar / 6…20 kPa	-0,6/5
0…200 mbar / 0…20 kPa	B1	B2	60…200 mbar / 6…20 kPa	-0,6/5
0…250 mbar / 0…25 kPa	02	27	0,12…0,4 bar / 12…40 kPa	-1/6
0…0,4 bar / 0…40 kPa	03	28	0,12…0,4 bar / 12…40 kPa	-1/6
0…0,6 bar / 0…60 kPa	04	29	0,3…1 bar / 30…100 kPa	-1/6
0…1 bar / 0…100 kPa	05	30	0,3…1 bar / 30…100 kPa	-1/10
0…1,6 bar / 0…160 kPa	06	31	0,6…2 bar / 60…200 kPa	-1/15
0…2 bar / 0…200 kPa	B3	B4	0,6…2 bar / 60…200 kPa	-1/15
0…2,5 bar / 0…250 kPa	07	32	1,2…4 bar / 0,12…0,4 MPa	-1/15
0…4 bar / 0…400 kPa	08	33	1,2…4 bar / 0,12…0,4 MPa	-1/25
0…6 bar / 0…600 kPa	09	34	3…10 bar / 0,3…1 MPa	-1/40
0…10 bar / 0…1 MPa	10	35	3…10 bar / 0,3…1 MPa	-1/40
0…16 bar / 0…1,6 MPa	11	36	6…20 bar / 0,6…2 MPa	-1/40
0…20 bar / 0…2 MPa	B5	B6	6…20 bar / 0,6…2 MPa	-1/40
0…25 bar / 0…2,5 MPa	12	37	12…40 bar / 1,2…4 MPa	-1/40
0…40 bar / 0…4 MPa	13	38	12…40 bar / 1,2…4 MPa	-1/60
0…60 bar / 0…6 MPa	14	39	20…70 bar / 2…7 MPa	-1/100
-100…0 mbar / -10…0 kPa	C4		30…100 mbar / 3…10 kPa	-0,3/4
-100…100 mbar / -10…10 kPa	C5		30…100 mbar / 3…10 kPa	-0,3/4
-200…0 mbar / -20…0 kPa	D2		60…200 mbar / 6…20 kPa	-1/6
-200…200 mbar / -20…20 kPa	D3		60…200 mbar / 6…20 kPa	-1/6
-1…0 bar / -100…0 kPa	D4		0,3…1 bar / 30…100 kPa	-1/6
-1…0,6 bar / -100…60 kPa	D5		0,3…1 bar / 30…100 kPa	-1/10
-1…1 bar / -100…100 kPa	D6		0,3…1 bar / 30…100 kPa	-1/10
-1…1,5 bar / -100…150 kPa	D7		0,6…2 bar / 60…200 kPa	-1/18
-1…3 bar / -100…300 kPa	D8		1,2…4 bar / 0,12…0,4 MPa	-1/25
-1…5 bar / -100…500 kPa	D9		3…10 bar / 0,3…1 MPa	-1/40
-1…9 bar / -100…900 kPa	E1		3…10 bar / 0,3…1 MPa	-1/40
-1…15 bar / -0,1…1,5 MPa	E2		6…19 bar / 0,6…1,9 MPa	-1/40
-1…19 bar / -0,1…1,9 MPa	E3		6…19 bar / 0,6…1,9 MPa	-1/40

* Accuracy 0,5%

ORDERING CODE

Output signal
- **4** 4…20 mA 2-wires
- **6** 0…10 V and 0 (4)…20 mA switchable 3-wires

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

Process connection and material
- **2** 1/2-14 NPT, 1.4404
- **3** G 1/2 B, EN 837-1, 1.4404
- **4** G 1/2 A and G 1/4 inside, ISO 228-1, 1.4404
- **G** G 1/2 A a. 11,8 mm drill hole, ISO 228-1, 1.4404
- **9** Others (on request)

Sensor seal
- **1** FPM (Viton), standard
- **2** NBR (Perbuan), max. 80 °C
- **3** EPDM
- **5** FFKM (Chemraz / Kalrez)
- **9** Others (on request)

Housing
- **0** Polyamide GA6GK30
- **1** Stainless steel 1.4301

Options (Multiple selections possible)
- **R** Ceramic sensor 99,9%
- **D** DNV certified*

P120 – [ ][ ] – [ ][ ][ ] …

* If the option "DNV certified" is selected, an FEP cable is used.

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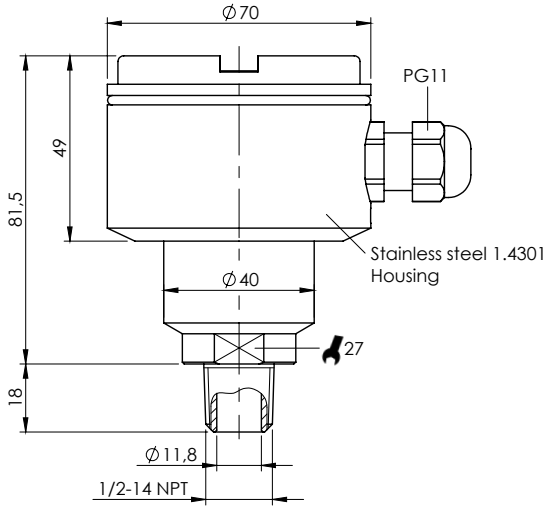
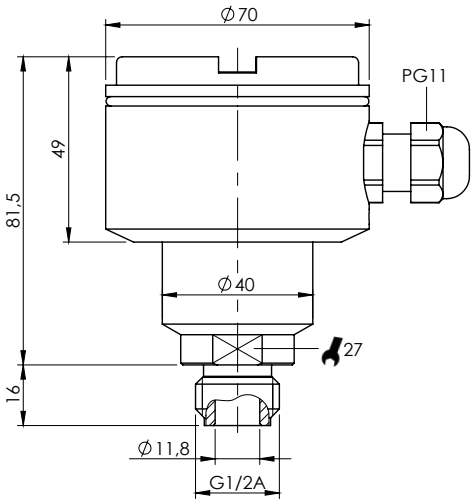
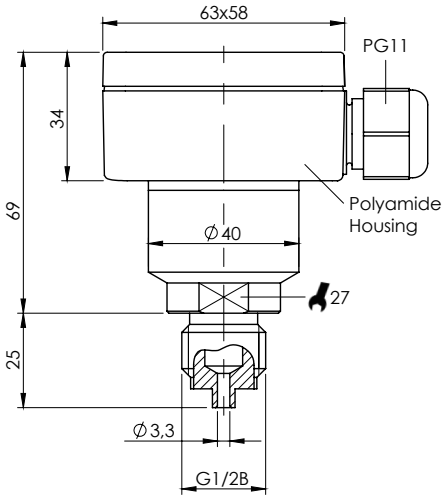
DIMENSIONS



PROCESS CONNECTION **TYPE 2**



TYPE G



PROCESS CONNECTION **TYPE 3**

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