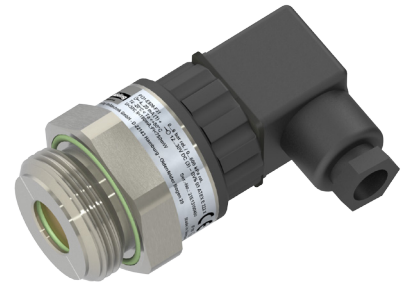


# P131


**Nöding**

Messtechnik



## Datasheet Pressure Transmitter P131

### PERFORMANCE FEATURES

- Flush dry ceramic sensor
- Smallest measuring range: 0...30 mbar
- Largest measuring range: 0...40 bar
- Negative pressure measuring range: up to -1 bar
- Accuracy  $\leq 0,2\%$
- High overload capability
- Rugged design
- Optionally in plastic PVDF
- Analog output: 4...20 mA, 2-Wires  
0...10 V, 3-Wires
- DNV-GL certified
- Ex II 1G Ex ia IIC T4 Ga   
I M2 Ex ia I Mb

The P131 model features large process connections and a front-flush measuring sensor. Clogging of the membrane is prevented most effectively and can be easily cleaned if necessary. ATEX and DNV-GL certified, the sensor can also be used in potentially explosive areas and features excellent mechanical strength. 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. Its housing is made of high-quality materials such as stainless steel 1.4404 or PVDF 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

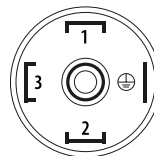
- Viscous and pasty media
- Hygiene applications
- Gaseous media
- Liquid media
- Abrasive media
- Aggressive media
- Potentially explosive areas

## TECHNICAL DATA

Measuring range	
Pressure 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...30V DC
10 V output	15...30 V DC
EX Version	12...30 V DC
Signal characteristics	
Accuracy	$\leq \pm 0,2 \% \text{ FS @ } 25^{\circ}\text{C}$ $\leq \pm 0,5 \% \text{ FS @ } 25^{\circ}\text{C at pressure range } \leq 60 \text{ mbar}$
Long term stability	$\leq \pm 0,15 \% \text{ FS/Year}$
Response time	200 ms - others on request
Swich-on time	< 1 s
Temperature coefficient	
Zero	$\leq \pm 0,015 \% \text{ FS/ Kelvin}$
Span	$\leq \pm 0,01 \% \text{ FS/ Kelvin}$
Temperature ranges	
Medium temperature	-40...100 °C (125 °C < 0,5 h) -20...80 °C with EX ia IIC T4
Surrounding temperature	-25...80 °C -20...80 °C with EX ia IIC T4
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 or PVDF
Sensor	Ceramic $\text{Al}_2\text{O}_3$ - FDA
Sensor seal	FPM (Viton), NBR, EPDM, FFKM (Chemraz / Kalrez)
Surroundings & exemplary weight	
Protection type	see "Electrical connection" in Ordering code
P131-400-F11 (figure p. 1)	Approx. 400 g

## ELECTRICAL CONNECTION

Connector  
EN 175301-803A



4...20 mA 2-wires

PIN 1: Signal +

PIN 2: Signal -

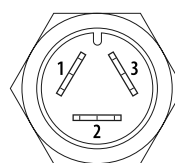
0...10 V 3-wires

PIN 1: in +

PIN 2: in -

PIN 3: out +

Quickon-Connector



4...20 mA 2-wires

PIN 1: Signal +

PIN 2: Signal -

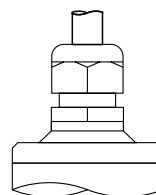
0...10 V 3-wires

PIN 1: in +

PIN 2: in -

PIN 3: out +

Cable connection



4...20 mA 2-wires

rot: Signal +

schwarz: Signal -

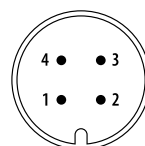
0...10 V 3-wires

rot: in +

schwarz: in -

weiß: out +

M12 Connector



4...20 mA 2-wires

PIN 1: Signal +

PIN 3: Signal -

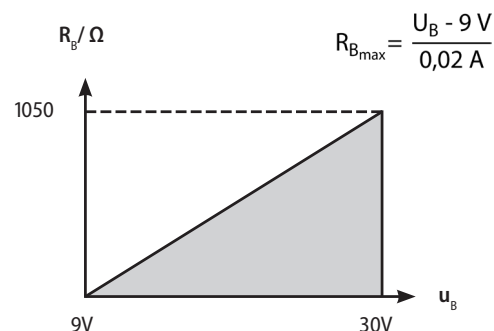
0...10 V 3-wires

PIN 1: in +

PIN 3: in -

PIN 4: out +

## LOAD



## MEASURING RANGE

Measuring ranges	Relative	Absolute	Overload (bar)
0...30 mbar / 0...3 kPa * <sup>(2)</sup>	A3		-0,3/4
0...40 mbar / 0...4 kPa * <sup>(2)</sup>	A8		-0,3/4
0...50 mbar / 0...5 kPa * <sup>(2)</sup>	B0		-0,3/4
0...60 mbar / 0...6 kPa * <sup>(2)</sup>	A9		-0,3/4
0...100 mbar / 0...10 kPa	00		-0,3/4
0...160 mbar / 0...16 kPa	01		-0,6/5
0...200 mbar / 0...20 kPa	B1		-1/6
0...250 mbar / 0...25 kPa	02		-1/6
0...300 mbar / 0...30 kPa <sup>(2)</sup>	X5		-1/6
0...400 mbar / 0...40 kPa	03		-1/6
0...500 mbar / 0...50 kPa	B7		-1/6
0...600 mbar / 0...60 kPa	04		-1/10
0...1 bar / 0...100 kPa	05	30 <sup>(2)</sup>	-1/10
0...1,6 bar / 0...160 kPa	06	31 <sup>(2)</sup>	-1/18
0...2 bar / 0...200 kPa	B3	B4 <sup>(2)</sup>	-1/18
0...2,5 bar / 0...250 kPa	07	32 <sup>(2)</sup>	-1/18
0...3 bar / 0...300 kPa	X3	X4	-1/25
0...4 bar / 0...400 kPa	08	33 <sup>(2)</sup>	-1/25
0...5 bar / 0...500 kPa	F1	F2 <sup>(2)</sup>	-1/40
0...6 bar / 0...600 kPa	09	34 <sup>(2)</sup>	-1/40
0...10 bar / 0...1 MPa	10	35 <sup>(2)</sup>	-1/40
0...16 bar / 0...1,6 MPa	11	36 <sup>(2)</sup>	-1/40
0...20 bar / 0...2 MPa	B5	B6 <sup>(2)</sup>	-1/40
0...25 bar / 0...2,5 MPa	12	37 <sup>(2)</sup>	-1/40
0...40 bar / 0...4 MPa	13	38 <sup>(2)</sup>	-1/60
-25...25 mbar / -2,5...2,5 kPa <sup>(2)</sup>	E6		-0,3/4
-100...0 mbar / -10...0 kPa	C4		-0,3/4
-100...100 mbar / -10...10 kPa	C5		-1/6
-200...0 mbar / -20...0 kPa <sup>(2)</sup>	D2		-1/6
-200...200 mbar / -20...20 kPa <sup>(2)</sup>	D3		-1/6
-1...0 bar / -100...0 kPa <sup>(2)</sup>	D4		-1/10
-1...0,6 bar / -100...60 kPa	D5		-1/10
-1...1 bar / -100...100 kPa	D6		-1/10
-1...1,5 bar / -100...150 kPa	D7		-1/18
-1...3 bar / -100...300 kPa	D8		-1/25
-1...5 bar / -100...500 kPa	D9		-1/40
-1...9 bar / -100...900 kPa	E1		-1/40
-1...15 bar / -0,1...1,5 MPa	E2		-1/40
-1...19 bar / -0,1...1,9 MPa	E3		-1/40

\* Accuracy 0,5%

<sup>(2)</sup> Not for G1" Type

## ORDERING CODE

### Output signal

- 1 0...10 V 3-wires
- 4 4...20 mA 2-wires
- H 4...20 mA 2-wires high temperature version -25...120 °C
- EX 4...20 mA 2-wires, II 1G Ex ia IIC T4 Ga
- MX 4...20 mA 2-wires, I M2 Ex ia I Mb

### Ranges

Measuring ranges see table

99 Non-standard range (on request)

### Process connection and material

- F G 1 A, ISO 228-1, 1.4404 (no pure ceramic possible)
- PF G 1 A, ISO 228-1, PVDF (no EX possible)
- V G 1 A inside, ISO 228-1, 1.4404
- 5 G 1 1/2 A, ISO 228-1, 1.4404
- 5P G 1 1/2 A, ISO 228-1, PVDF (no EX possible)
- L Clamp 1", DN 25...40, 1.4404 (316L)
- M Dairy thread DN 25 DIN 11851, 1.4404
- 6 Dairy thread DN 32 DIN 11851, 1.4404
- 7 Dairy thread DN 40 DIN 11851, 1.4404
- 8 Dairy thread DN 50 DIN 11851, 1.4404
- K Dairy thread DN 40 aseptic, 1.4404
- N DRD flange DN 65, 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)

### Electrical connection

- 1 Connector EN 175301-803A IP 65
- 4 Connector EN 175301-803A IP 65 potted electronics
- A Connector M12x1 IP 65
- B Connector M12x1 IP 65 potted electronics
- F Quickon-Connector IP 65
- G Quickon-Connector IP 65, potted electronics
- 0 5 m cable IP 67
- 5 5 m cable IP 67, potted electronics
- 6 2 m cable IP 67
- 7 2 m cable IP 67, potted electronics
- 9 Others (on request)

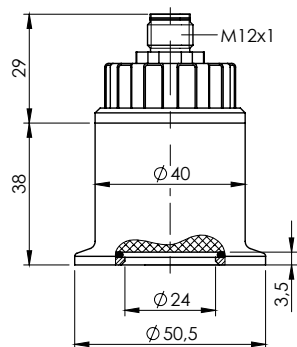
### Optionen (Multiple selections possible)

- R Ceramic sensor 99,9%
- T Minimized case volume
- D DNV certified\*

P131- - ...

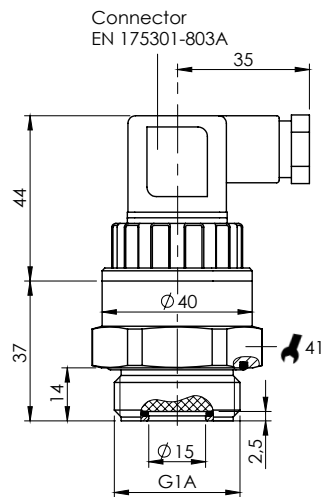
\* If the option "DNV certified" is selected, an FEP cable is used for the cable outlet.

## DIMENSIONS

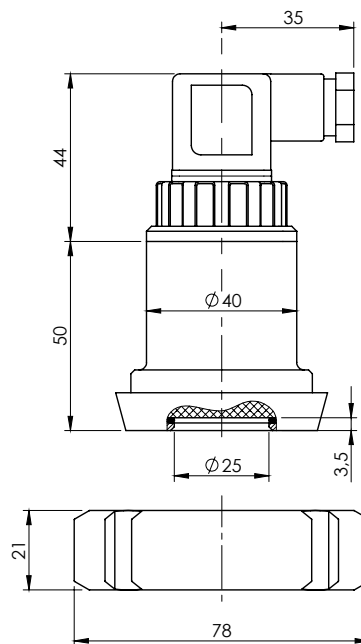


PROCESS CONNECTION

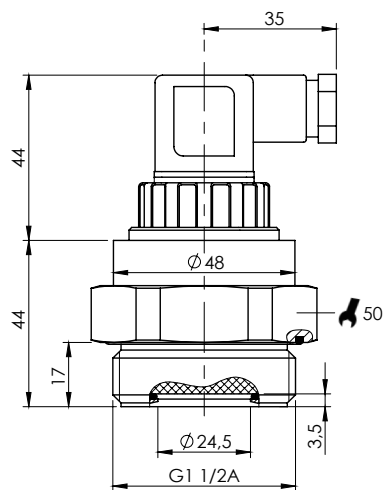
■ TYPE L



■ TYPE F

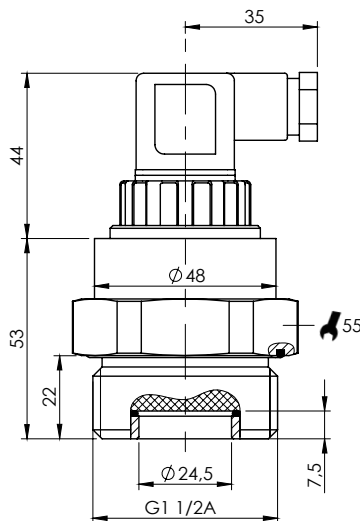


■ TYPE 7

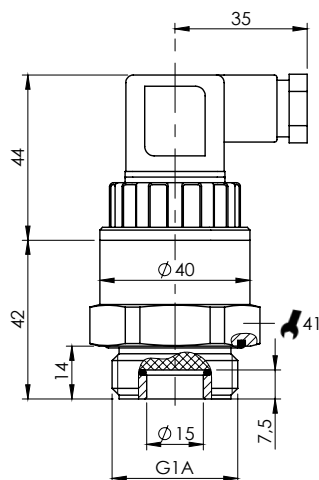


PROCESS CONNECTION

■ TYPE 5

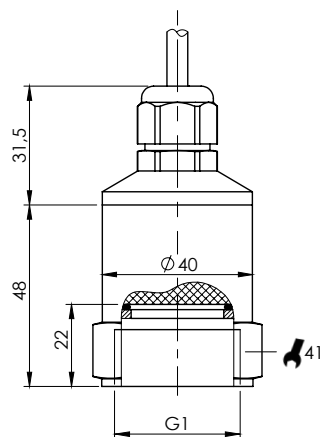


■ TYPE 5P



PROZESSANSCHLUSS

■ TYPE PF



■ TYPE V