

# P135K

2. Generation


**Nöding**

Messtechnik



## Datasheet Level Transmitter P135K

### PERFORMANCE FEATURES

- Dry capacitive pure ceramic sensor (99,9%)
- 22 mm Ø ideal for 1" pipes
- Smallest measuring range: 0...50 mbar / 0...0,5 mH<sub>2</sub>O
- Largest measuring range: 0...20 bar / 0...200 mH<sub>2</sub>O
- Accuracy ≤ 0,2% (≤ 0,3% ATEX-Variant)
- Analog output: 4...20 mA, 2-wires  
0...10 V, 3-wires
- Optionally integrated PT100 / PT1000 Sensor for temperature measurement
- Ex II 1G Ex ia IIC T4 Ga   
I M2 Ex ia I Mb

### AREAS OF APPLICATION

- Gaseous media
- Water
- Waste water
- Well / Deep well
- Oil and fuel
- Viscous and pasty media
- Aggressive media
- Potentially explosive areas

The level transmitter P135K is due to its slim and also shortened design with a diameter of 22 mm, optimal to install in 1" pipes. Typical applications are in the field of industrial and drinking water, however the sensor is also widely used in pumping and lifting systems. The ceramic sensor element is resistant to aggressive and abrasive media. Its 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.

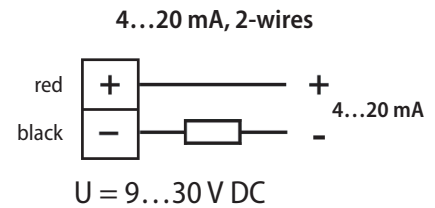
### 2. GENERATION

- Improved signal characteristics
- Pure ceramic sensor (99,9%)
- Lower temperature effect
- Increased electromagnetic compatibility
- Identical installation dimensions
- 1:1 exchangeable with 1st generation

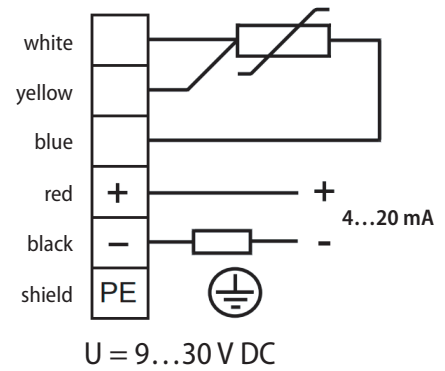
## TECHNICAL DATA

Measuring range:	
Pressure range	See table "Measuring ranges" others on request
Output	
Analog output	4...20 mA 2-wires
Power supply	
20 mA output	9...30 V DC
10 V output	15...30 V DC
EX Version	12...30 V DC
Signal characteristics	
Accuracy	$\leq \pm 0,2\%$ FS @ 25 °C $\leq \pm 0,3\%$ FS @ 25 °C ATEX-Variant $\leq \pm 0,5\%$ FS @ 25 °C at pressure range < 100 mbar
Long term stability	$\leq \pm 0,2\%$ FS/Year
Response time	200 ms - others on request
Switch-on time	< 1 s
Temperature coefficient	
Zero	$\leq \pm 0,01\%$ FS / Kelvin
Span	$\leq \pm 0,01\%$ FS / Kelvin
Temperature ranges	
Medium temperature	-25...80 °C -20...70 °C with EX ia IIC T4 Ga
Surrounding temperature	-25...80 °C -20...70 °C with EX ia IIC T4 Ga
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	
Housing	Stainless steel 1.4404
Sensor	pure ceramic Al <sub>2</sub> O <sub>3</sub> (99,9%) - FDA
Sensor seal	FPM (Viton), EPDM, FFKM (Chemraz/Kalrez)
Umgebung	
Schutzart	IP 68
Exemplary weight	
P135K-4W1-1005-0 (figure p. 1)	Approx. 450 g

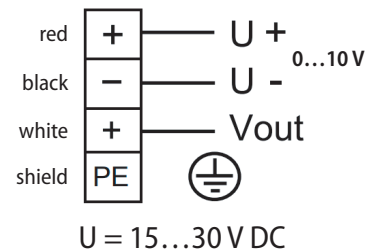
## ELECTRICAL CONNECTION



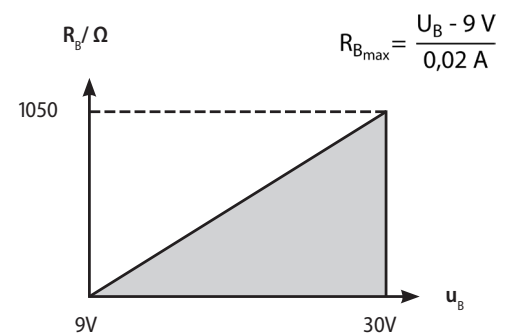
4...20 mA, 2-wires and Pt 100 / Pt 1000 temperature sensor, 3 wires



0...10 V, 3-wires



## LOAD



## MEASURING RANGES

Measuring ranges in bar / Pa		Measuring ranges in mH <sub>2</sub> O		Overload (bar)
0...50 mbar / 0...5 kPa*	B0	0...0,5 mH <sub>2</sub> O*	W0	-0,7/2,7
0...100 mbar / 0...10 kPa	00	0...1 mH <sub>2</sub> O	50	-0,7/2,7
0...160 mbar / 0...16 kPa	01	0...1,6 mH <sub>2</sub> O	51	-1/3,3
0...200 mbar / 0...20 kPa	B1	0...2 mH <sub>2</sub> O	W1	-1/3,3
0...250 mbar / 0...25 kPa	02	0...2,5 mH <sub>2</sub> O	52	-1/4
0...300 mbar / 0...30 kPa	X5	0...3 mH <sub>2</sub> O	66	-1/4
0...400 mbar / 0...40 kPa	03	0...4 mH <sub>2</sub> O	53	-1/4
0...500 mbar / 0...50 kPa	B7	0...5 mH <sub>2</sub> O	W2	-1/6,7
0...600 mbar / 0...60 kPa	04	0...6 mH <sub>2</sub> O	54	-1/6,7
0...1 bar / 0...100 kPa	05	0...10 mH <sub>2</sub> O	55	-1/6,7
0...1,6 bar / 0...160 kPa	06	0...16 mH <sub>2</sub> O	56	-1/12
0...2 bar / 0...200 kPa	B3	0...20 mH <sub>2</sub> O	W3	-1/12
0...2,5 bar / 0...250 kPa	07	0...25 mH <sub>2</sub> O	57	-1/16,7
0...4 bar / 0...400 kPa	08	0...40 mH <sub>2</sub> O	58	-1/16,7
0...5 bar / 0...500 kPa	F1	0...50 mH <sub>2</sub> O	68	-1/26,7
0...6 bar / 0...600 kPa	09	0...60 mH <sub>2</sub> O	59	-1/26,7
0...10 bar / 0...1 MPa	10	0...100 mH <sub>2</sub> O	60	-1/26,7
0...16 bar / 0...1,6 MPa	11	0...160 mH <sub>2</sub> O	61	-1/26,7
0...20 bar / 0...2 MPa	B5	0...200 mH <sub>2</sub> O	W5	-1/26,7

\* Genauigkeit 0,5%

## ORDERING CODE

### Output signal

- 1 0...10 V 3-wires
- 4 4...20 mA 2-wires
- T 4...20 mA 2-wires and PT100 3-wires
- F 4...20 mA 2-wires and PT1000 3-wires
- EX 4...20 mA 2-wires, Ⓢ II 1G Ex ia IIC T4 Ga
- TX 4...20 mA 2-wires, Ⓢ II 1G Ex ia IIC T4 Ga and PT100 3-wires
- FX 4...20 mA 2-wires, Ⓢ II 1G Ex ia IIC T4 Ga and PT1000 3-wires

### Ranges

Measuring ranges see table

- 99 Non-standard range (on request)

### Material housing / sensor seal

- 1 1.4404 / FPM (Viton)
- 3 1.4404 / EPDM
- 5 1.4404 / FFKM (Chemraz/Kalrez)
- S 1.4404 / FPM (Viton) and Serto

### Cable length

- 002 2 m cable
- 005 5 m cable
- 010 10 m cable
- 050 50 m cable
- 100 100 m cable

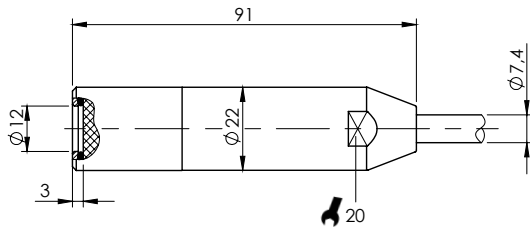
Specify custom lengths in meters

### Cable material

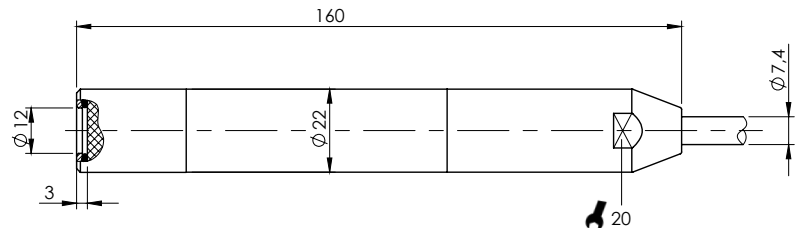
- 0 PE cable (PT100/PT1000 N/A)
- 2 PUR cable
- 4 HDPE cable
- 6 FEP cable

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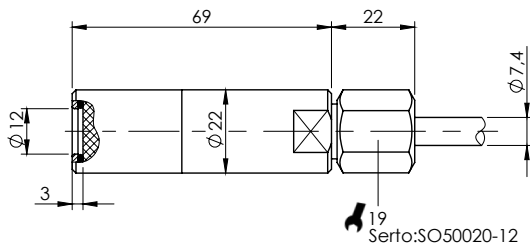
## DIMENSIONS



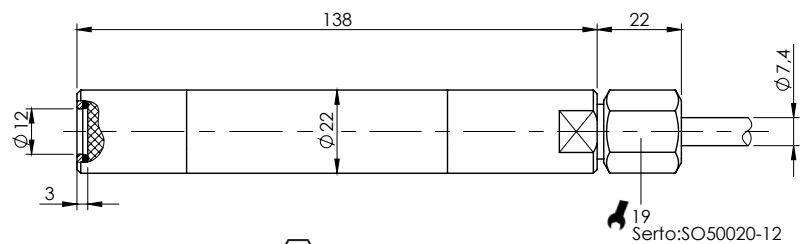
VERSION TYPE 1,3



EX TYPE 1,3



VERSION TYPE S



EX TYPE S

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