

Pressure Transducer *cerabar T PMC 131*

Pressure transducer with capacitive ceramic sensor for absolute and gauge pressure
Extremely stable and resistant to overload



Application

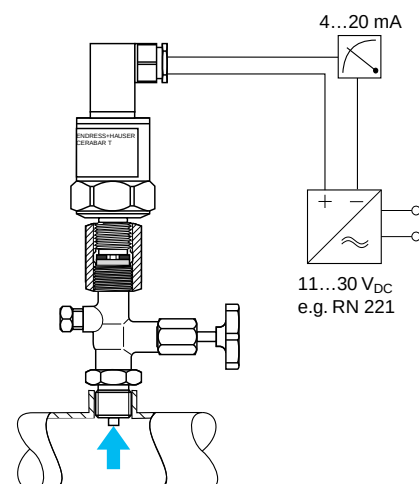
The Cerabar T is designed for measuring absolute and gauge pressure of gases, vapours and liquids.

Features and Benefits

- Safe operation with the proven capacitive ceramic sensor
- Reliable
- Extremely stable
- Simple to mount

Measuring System

- Pressure transducer Cerabar T with 4...20 mA output and
- Power supply 11...30 V, e.g. power pack RN 221 or NX 9120, NX 9121 from Endress+Hauser



Endress + Hauser

Nothing beats know-how



Version, Cable Gland, Protection

A1 Plug (DIN 43650 A/ISO 4400), Pg 11, IP 65

A2 Plug (DIN 43650 A/ISO 4400), ½ NPT, IP 65

A3 5 m cable, IP 68

C1 Plug (DIN 43650 A/ISO 4400), CSA General Purpose, Type 4X

C2 Plug (DIN 43650 A/ISO 4400), ½ NPT, CSA General Purpose, Type 4X

C3 5 m cable, CSA General Purpose, Type 6P

Process Connection: Type, Material

1 G ½ (DIN 16 288), 1.4301 (SS 304)

2 ½ MNPT, ¼ FNPT, 1.4301 (SS 304)

Process Seal Material (Wetted)

F FPM (Viton)

Accessories

1 None

Measuring Ranges, Unit

Gauge pressure (mbar, bar)

(kPa, MPa)

D10 0...100 mbar 0...10 kPa

D12 0...200 mbar 0...20 kPa

D14 0...400 mbar 0...40 kPa

A1G 0...1 bar 0...100 kPa

A1H 0...1,6 bar 0...160 kPa

A1K 0...2 bar 0...200 kPa

A1Q 0...4 bar 0...400 kPa

A1R 0...6 bar 0...600 kPa

A1S 0...10 bar 0...1 MPa

A1T 0...16 bar 0...1,6 MPa

A1V 0...20 bar 0...2 MPa

A1W 0...25 bar 0...2,5 MPa

A1X 0...40 bar 0...4 MPa

D3W -20...20 mbar -2...2 kPa

D31 -100...100 mbar -10...10 kPa

D38 -200...200 mbar -20...20 kPa

A3E -1...1 bar -100...100 kPa

A3G -1...3 bar -100...300 kPa

A3K -1...9 bar 0,1...0,9 MPa

Absolute pressure (mbar, bar)

(kPa, MPa)

D20 0...100 mbar 0...10 kPa

D22 0...200 mbar 0...20 kPa

D24 0...400 mbar 0...40 kPa

A2G 0...1 bar 0...100 kPa

A2H 0...1,6 bar 0...160 kPa

A2K 0...2 bar 0...200 kPa

A2Q 0...4 bar 0...400 kPa

A2R 0...6 bar 0...600 kPa

A2S 0...10 bar 0...1 MPa

A2T 0...16 bar 0...1,6 MPa

A2V 0...20 bar 0...2 MPa

A2W 0...25 bar 0...2,5 MPa

A2X 0...40 bar 0...4 MPa

Gauge pressure (in H₂O, psi)

S4N 0...50 in H₂O 6 psi

S4Q 0...100 in H₂O 6 psi

Q4D 0...1,5 psi g 1,5 psi

Q4F 0...5 psi g 6 psi

Q4H 0...15 psi g 15 psi

Q4K 0...30 psi g 30 psi

Q4N 0...50 psi g 60 psi

Q4R 0...150 psi g 150 psi

Q4S 0...300 psi g 300 psi

Q4T 0...500 psi g 600 psi a

W6N -15...15 in H₂O 1,5 psi

W6O -80...80 in H₂O 6 psi

W6R -15...30 in H₂O 6 psi

V6F -1,5...1,5 psi g 6 psi

V6N -15...15 psi g 30 psi

V6R -15...30 psi g 60 psi

V6S -15...60 psi g 150 psi

V6V -15...150 psi g 150 psi

Absolute pressure (psi)

R4D 0...1,5 psi a 15 psi a

R4F 0...5 psi a 15 psi a

R4H 0...15 psi a 15 psi a

R4K 0...30 psi a 30 psi a

R4N 0...50 psi a 60 psi a

R4R 0...150 psi a 150 psi a

R4S 0...300 psi a 300 psi a

R4T 0...500 psi a 600 psi a

PMC 131

a = Absolute pressure sensors

Technical Data

General Specifications

Manufacturer	Endress+Hauser
Instrument designation	Cerabar T PMC 131

Application

Measuring absolute and gauge pressures of gases, vapours and liquids
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Operation and System Design

Measuring principle	The pressure to be measured causes a small deflection of the ceramic diaphragm of the sensor. A change in capacitance proportional to the pressure is measured by electrodes on the ceramic sensor.
Modularity	Pressure sensor is optionally supplied with DIN 43650 A/ISO 4400 plug or cable end for connecting to a transmitter power supply

Input

Measured variable	Gauge or absolute pressure
Measuring ranges	Max. 40 bar (see Product Structure)

Output

Output signal	4...20 mA
Load	$R_A [\Omega] \leq (U_B - 11 \text{ V}) / 0.02 \text{ A}$

Accuracy

Reference conditions	to DIN IEC 770
Rise time	20 ms (T_{90} time)
Measurement deviation (including hysteresis and reproducibility)	0.5% FS
Effect of ambient temperature of nominal range	Thermal change of zero point signal between $-20...+85^\circ\text{C}$ ($-4...+185^\circ\text{F}$) typical: 1.5% Thermal change of span between $-20...+85^\circ\text{C}$ ($-4...+185^\circ\text{F}$) typical: 0.8% for rating 0.4 bar...40 bar (5.8 psi...580 psi) typical: 1.0% for rating 0.1 bar (1.45 psi)
Long-term stability	0.15% per year

Operating Conditions

Environment

Ambient temperature range	$-20...+85^\circ\text{C}$ ($-4...+185^\circ\text{F}$)
Storage temperature range	$-50...100^\circ\text{C}$ ($-58...+212^\circ\text{F}$)
Climate class	4K4H to DIN EN 60721-3
Ingress protection	With plug: IP 65, with cable end IP 68 (1.8 m/5.9 ft, 30 min)
Vibrational resistance	4M5 to DIN EN 60721-3
Electromagnetic compatibility	Interference emission to EN 50081-1, Interference immunity to EN 50082-2 and 10 V/m to NAMUR industrial standard

Medium

Limiting temperature range	max. 100°C (212°F)
Limiting pressure range	Depends on overload, see Product Structure »Overload« page 2

Mechanical Construction

Process connections	See Product Structure »Process Connection« page 2 and Dimensions page 4
Electrical connection	See Product Structure »Version« page 2 and Electrical Connection page 4

Materials for Wetted Parts

Process connection and housing	1.4301
Gasket (internal)	FPM (Viton)
Process diaphragm	Al_2O_3 (aluminium oxide-ceramic)

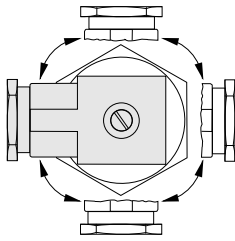
Power Supply

Power supply	11...30 V _{DC}
Ripple	5%

Supplementary Documentation

Cerabar T PMP 131 Technical Information TI 291P/00/en Cerabar S/Deltabar S System Information SI 020P/00/en Cerabar System Information SI 004P/00/en
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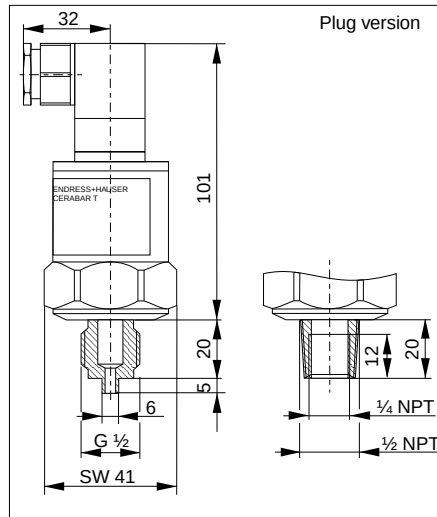
Dimensions



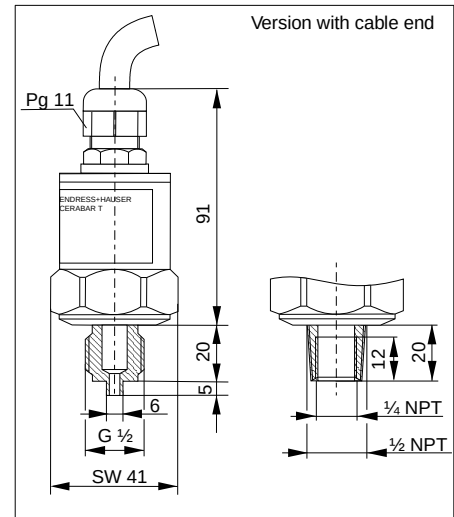
The head of the plug-in housing can be turned through 90° in all directions.

Dimensiones

All dimensions are in mm.
1 in = 25.4 mm
1mm = 0.039 in

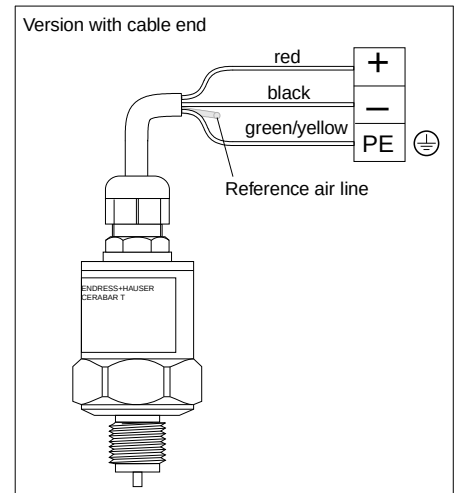
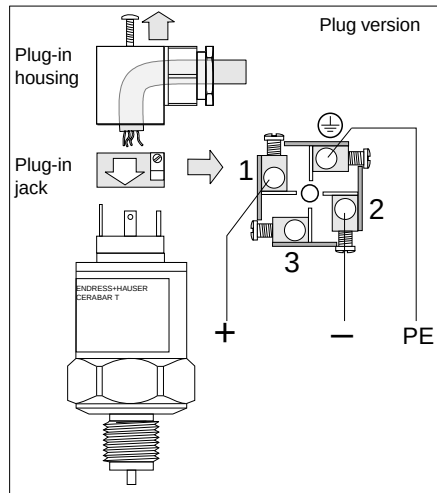


Standard DIN 43650 A/ISO 4400 plug with cable gland 1/2 NPT or Pg 11, IP 65



Permanently attached cable, 5 m, IP 68

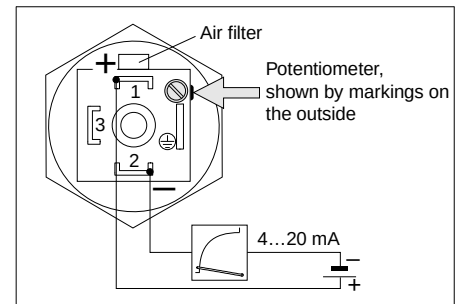
Electrical Connection



Operation

Zero Point Shift

The zero point can be adjusted $\pm 5\%$ using the potentiometer under one of the screws of the plug-in module.



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Nothing beats know-how

