

# Cerabar PMP51B - pressure transmitter

Smart pressure transmitter with metal membrane for highly accurate measurement of liquids and gases



More information and current pricing:

[www.endress.com/PMP51B](http://www.endress.com/PMP51B)

## Benefits:

- Reduce systematic failures - error free SIL commissioning and instrument guided proof testing
- Reduce on site accidents and protect equipment when instruments are in difficult to reach areas
- Wireless control of the device in the process area with the SmartBlue App without process interruption

## Specs at a glance

- **Accuracy** Standard: up to 0.075 % Platinum up to 0.055 %
- **Process temperature** Standard: -40°C...+125°C (-40°F...+257°F)  
Diaphragm seal: -40°C...+400°C (-40°F...+752°F)
- **Pressure measuring range** 400 mbar... 400 bar (6psi...6,000psi)
- **Main wetted parts** 316L, AlloyC, Tantal, Monel, PTFE
- **Material process membrane** 316L, AlloyC, Tantal, Monel, PTFE

**Field of application:** This transmitter belongs to the new Cerabar generation. It combines robustness with numerous benefits: e.g easiest local or remote operation and condition-based maintenance which promotes better management of scheduled plant shutdowns. The software is designed to simplify the handling. Intuitive and clear wizards guide you through the commissioning and proof testing of the device. The transmitter can be remotely controlled via app on a mobile device and a secure Bluetooth connection.

## Features and specifications

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## Pressure

### Measuring principle

Absolute and gauge pressure

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### Characteristic

Pressure transmitter with metal membrane for accurate measurement in liquids or gases.

Available with diaphragm seals.

Intuitive and clear wizard for commissioning

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### Supply voltage

Ex d, Ex e, non-Ex:

10.5...35V DC

Ex i: 10.5...30V DC

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### Reference Accuracy

Standard:

up to 0.075 %

Platinum:

up to 0.055 %

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### Long term stability

0.1% of URL/year

0.2% of URL/ 5 years

0.25% of URL/ 10 years

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### Process temperature

Standard:

-40°C...+125°C

(-40°F...+257°F)

Diaphragm seal:

-70°C...+400°C

(-x°F...+752°F)

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### Ambient temperature

-40°C...+85°C

(-40°F...+185°F)

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**Pressure****Measuring cell**

400 mbar...400 bar  
(6psi...6,000psi)

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**Smallest calibratable span**

20 mbar (0.3 psi)

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**Vacuum resistance**

50 mbar (0.725 psi)

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**Max. Turn down**

100:1

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**Max. overpressure limit**

2,800 bar (40,600 psi)

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**Process connection**

Thread:

G1/2...G2, R1/2, MNPT3/4...MNPT2,  
FNPT1/2

Flange:

DN25...DN80,  
NPS 1"...3"

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**Process connection hygienic**

Process connection hygienic

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**Material process membrane**

316L, AlloyC,  
Tantal, Monel,  
PTFE

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**Material gasket**

PTFE

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**Fill fluid**

Silicone oil, Inert oil,  
Vegetable oil,  
High/ low temperature oil

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**Pressure****Material housing**

Aluminium

**Communication**

4...20 mA,

4...20 mA HART

PROFINET with Ethernet-APL

Bluetooth® wireless

technology and app (optional)

**Certificates / Approvals**

ATEX, IEC Ex, CSA C/US, NEPSI

**Safety approvals**

SIL

**Design approvals**

EN10204-3.1,

NACE MR0175,

NACE MR0103

**Hygienic approvals**

Hygienic approvals

**Marine approvals**

Marine approvals

**Drinking water approvals**

NSF

**Specialities**

Bluetooth® Operation and maintenance SmartBlue App,

RFID TAG for easy identification,

Plug and play functionalities

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**Continuous / Liquids****Measuring principle**

Absolute and gauge pressure

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## Continuous / Liquids

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### Characteristic / Application

Pressure transmitter with metal membrane for accurate measurement in liquids or gases.

Available with diaphragm seals.

Intuitive and clear wizard for commissioning

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### Specialities

Bluetooth® Operation and maintenance SmartBlue App,

RFID TAG for easy identification,

Plug and play functionalities

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### Supply / Communication

Ex d, Ex e, non-Ex:

10.5...35V DC

Ex i: 10.5...30V DC

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### Accuracy

Standard:

up to 0.075 %

Platinum

up to 0.055 %

---

### Long term stability

0.1 % of URL/ year

0.2 % of URL/ 5 years

0.25 % of URL/ 10 years

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### Ambient temperature

-40°C...+85°C

(-40°F...+185°F)

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### Process temperature

Standard:

-40°C...+125°C

(-40°F...+257°F)

Diaphragm seal:

-40°C...+400°C

(-40°F...+752°F)

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**Continuous / Liquids**

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**Process pressure / max. overpressure limit**

700 bar (10,500 psi)

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**Pressure measuring range**

400 mbar... 400 bar  
(6psi...6,000psi)

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**Main wetted parts**

316L, AlloyC,  
Tantal, Monel,  
PTFE

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**Process connection**

Thread:

G1/2...G2, R1/2, MNPT3/4...MNPT2,  
FNPT1/2

Flange:

DN25...DN80,  
NPS 1"...3"

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**Max. measurement distance**

4000 m (13,123 ft) H<sub>2</sub>O

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**Communication**

4...20 mA,

4...20 mA HART

PROFINET with Ethernet-APL

Bluetooth® wireless  
technology and app (optional)

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**Certificates / Approvals**

ATEX, IEC Ex, CSA C/US, NEPSI

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**Safety approvals**

SIL

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## Continuous / Liquids

### **Design approvals**

EN 10204-3.1  
NACE MR0175,  
NACE MR0103,  
AD2000

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### **Hygienic approvals**

Hygienic approvals

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### **Marine approval**

Marine approval

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### **Drinking water approvals**

NSF

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### **Options**

Diaphragm seal

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### **Application limits**

Measuring cell: Metal welded  
If pressurized, possibly use differential pressure measurement with two pressure transmitters (electronic dp). Observe ratio head pressure: hydrostatic pressure

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