

# 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:

-40°C...+400°C

(-40°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

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### Material housing

Aluminium

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### Communication

4...20 mA,  
4...20 mA HART

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### Certificates / Approvals

ATEX, IEC Ex, CSA C/US, NEPSI

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### Safety approvals

SIL

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### Design approvals

EN10204-3.1,  
NACE MR0175,  
NACE MR0103

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### Hygienic approvals

Hygienic approvals

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### Marine approvals

Marine approvals

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### Drinking water approvals

NSF

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### 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

### Characteristic / Application

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

Available with diaphragm seals.

Intuitive and clear wizard for commissioning

### Specialities

Bluetooth® Operation and maintenance SmartBlue App,

RFID TAG for easy identification,

Plug and play functionalities

### Supply / Communication

Ex d, Ex e, non-Ex:

10.5...35V DC

Ex i: 10.5...30V DC

### 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

### Ambient temperature

-40°C...+85°C

(-40°F...+185°F)

### 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****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) H2O

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**Communication**

4...20 mA,

4...20 mA HART

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**Certificates / Approvals**ATEX, IEC Ex, CSA C/US, NEPSI

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**Safety approvals**SIL

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**Design approvals**

EN 10204-3.1

NACE MR0175,

NACE MR0103,

AD2000

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## Continuous / Liquids

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