

Cerabar PMP51B - pressure transmitter

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



More information and current pricing:

www.ch.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

Pressure

Measuring principle

Absolute and gauge pressure

Characteristic

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

Available with diaphragm seals.

Intuitive and clear wizard for commissioning

Supply voltage

Ex d, Ex e, non-Ex:

10.5...35V DC

Ex i: 10.5...30V DC

Reference 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

Process temperature

Standard:

-40°C...+125°C

(-40°F...+257°F)

Diaphragm seal:

-40°C...+400°C

(-40°F...+752°F)

Ambient temperature

-40°C...+85°C

(-40°F...+185°F)

Pressure**Measuring cell**

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

Smallest calibratable span

20 mbar (0.3 psi)

Vacuum resistance

50 mbar (0.725 psi)

Max. Turn down

100:1

Max. overpressure limit

2,800 bar (40,600 psi)

Process connection

Thread:

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

Flange:

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

Process connection hygienic

Process connection hygienic

Material process membrane

316L, AlloyC,
Tantal, Monel,
PTFE

Material gasket

PTFE

Fill fluid

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

Pressure**Material housing**

Aluminium

Communication4...20 mA,
4...20 mA HART**Certificates / Approvals**

ATEX, IEC Ex, CSA C/US, NEPSI

Safety approvals

SIL

Design approvalsEN10204-3.1,
NACE MR0175,
NACE MR0103**Hygienic approvals**

Hygienic approvals

Marine approvals

Marine approvals

Drinking water approvals

NSF

SpecialitiesBluetooth® Operation and maintenance SmartBlue App,
RFID TAG for easy identification,
Plug and play functionalities

Continuous / Liquids**Measuring principle**

Absolute and gauge pressure

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)

Continuous / Liquids**Process pressure absolute / max. overpressure limit**700 bar (10,500 psi)

Pressure measuring range400 mbar... 400 bar
(6psi...6,000psi)

Main wetted parts316L, AlloyC,
Tantal, Monel,
PTFE

Process connection

Thread:

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

Flange:

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

Max. measurement distance4000 m (13,123 ft) H₂O

Communication

4...20 mA,

4...20 mA HART

Certificates / ApprovalsATEX, IEC Ex, CSA C/US, NEPSI

Safety approvalsSIL

Design approvalsEN 10204-3.1
NACE MR0175,
NACE MR0103,
AD2000

Continuous / Liquids

Hygienic approvals

Hygienic approvals

Marine approval

Marine approval

Drinking water approvals

NSF

Options

Diaphragm seal

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

More information www.ch.endress.com/PMP51B