

Absolute and gauge pressure Cerabar PMP51

Digital pressure transmitter with welded
metal sensor for measurement in gases, steam
or liquids



More information and current pricing:

www.ch.endress.com/PMP51

Benefits:

- Accurate measurement of the process value even in the case of changing process temperature
- Process safety assured with small flush mounted process connections in hygienic applications
- For process pressure monitoring up to SIL2, certified to IEC 61508 and IEC 61511
- Modular concept for easy replacement of display or electronics
- Easy menu-guided commissioning via on-site display, 4 to 20mA with HART, PROFIBUS PA, FOUNDATION Fieldbus
- Seamless and independent system integration (HART/PA/FF)
- Available with mounted manifolds: always fit, always tested for leaks

Specs at a glance

- **Accuracy** Standard 0.1% Platinum 0.075%
- **Process temperature** -40°C...125°C (-40°F...275°F)
- **Pressure measuring range** 1 bar...400 bar (15 psi...6000 psi)
- **Process pressure absolute / max. overpressure limit** 600 bar (9000 psi)
- **Main wetted parts** 316L

Field of application: The Cerabar PMP51 digital pressure transmitter with metal membrane is typically used in process and hygiene applications for pressure, level, volume or mass measurement in liquids or gases. PMP51 is designed for high pressure applications up to 400bar. Quick Setup with adjustable measuring range allows simple

commissioning, reduces costs and saves time. SIL2 according to IEC 61508 and IEC 61511.

Features and specifications

Pressure

Measuring principle

Absolute and gauge pressure

Characteristic

Smart and reliable pressure transmitter, with piezoresistive measuring cell and metal welded process isolating diaphragm

Supply voltage

4...20mA HART

11,5...45V DC (Non Ex):

Ex ia: 11,5...30V DC

PROFIBUS PA:

9...32 V DC (Non Ex)

FOUNDATION Fieldbus:

9...32 V DC (Non Ex)

Reference Accuracy

Standard 0.1%

Platinum 0.075%

Pressure**Long term stability**

0.1% of URL/year

0.2% of URL/ 5 years

0.25% of URL/ 10 years

Process temperature

-40°C...+130°C

(-40°F...+266°F)

+150°C for 1h

(+302°F for 1h)

Ambient temperature

-40°C...+85°C

(-40°F...+185°F)

Measuring cell

400mbar...400bar

(15psi...6000psi)

relative/ absolute

Smallest calibratable span

20 mbar (0.3 psi)

Vacuum resistance

10 mbar (0.15 psi)

Max. Turn down

20:1

Max. overpressure limit600bar (9000psi)

Pressure**Process connection**

Thread:

G1/2...G2, MNPT1/2...MNPT2

Flange:

DN25...DN80,

ASME 1 1/2"...4",

Process connection hygienic

Tri-Clamp

DIN11851

NEUMO

Varivent N

SMS

DRD

Material process membrane

316L, AlloyC,

Rhodium>Gold

Material gasket

None, measuring cell welded

Fill fluid

Silicone oil,

Inert oil

Pressure**Material housing**

Die-cast aluminum,

AISI 316L

Communication

4...20 mA

4...20 mA HART

PROFIBUS PA

FOUNDATION Fieldbus

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

Safety approvalsSIL

Design approvals

EN10204-3.1

NACE MR0175

Hygienic approvals

3A, EHEDG

CoC ASME-BPE

Marine approvalsGL/ ABS/ LR/ BV/ DNV

Drinking water approvalsNSF

SuccessorPMP51B

Continuous / Liquids**Measuring principle**

Absolute and gauge pressure

Characteristic / Application

Smart and reliable pressure transmitter, with piezoresistive measuring cell
and metal welded process isolating diaphragm

Supply / Communication

4 ..20 mA HART:

11,5...45 V DC

Ex ia: 11,5...30 V DC

PROFIBUS PA

FOUNDATION Fieldbus

Accuracy

Standard 0.1%

Platinum 0.075%

Long term stability

< 0,1% von URL/ year

0,2% of URL/ 5 years

0,25% of URL/ 10 years

Ambient temperature

-40°C...85°C

(-40°F...185°F)

Continuous / Liquids**Process temperature**

-40°C...125°C
(-40°F...275°F)

Process pressure absolute / max. overpressure limit

600 bar (9000 psi)

Pressure measuring range

1 bar...400 bar

(15 psi...6000 psi)

Main wetted parts

316L

Process connection

Threads

Flanges (DIN, ASME, JIS)

Hygienic connections

Tri-Clamp ISO2852

Max. measurement distance

4000 m (13.123 ft) H₂O

Communication

4...20 mA HART

PROFIBUS PA

FOUNDATION Fieldbus

Certificates / Approvals

ATEX, FM, CSA, CSA C/US, IEC Ex, INMETRO, NEPSI

Safety approvals

SIL

Continuous / Liquids

Design approvals

EN 10204-3.1

NACE MR0175, MR0103

AD2000

Hygienic approvals

3A, EHEDG

CoC ASME-BPE

Marine approval

GL/ ABS/ LR/ BV/ DNV

Drinking water approvals

NSF

Options

Local display

Successor

PMP51B

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/PMP51