

# 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.endress.com/PMP51](http://www.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

### 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)

#### Process temperature

-40°C...125°C  
(-40°F...275°F)

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**Continuous / Liquids****Process pressure absolute / max. overpressure limit**600 bar (9000 psi)

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**Pressure measuring range**1 bar...400 bar  
(15 psi...6000 psi)

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**Main wetted parts**316L

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**Process connection**Threads  
Flanges (DIN, ASME, JIS)  
Hygienic connections  
Tri-Clamp ISO2852

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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 HART  
PROFIBUS PA  
FOUNDATION Fieldbus  
IO-Link

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

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**Safety approvals**SIL

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**Design approvals**EN 10204-3.1  
NACE MR0175, MR0103  
AD2000

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**Hygienic approvals**3A, EHEDG  
CoC ASME-BPE

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## Continuous / Liquids

**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

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## 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)

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**Pressure****Reference Accuracy**

Standard 0.1%  
Platinum 0.075%

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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**

-40°C...+130°C  
(-40°F...+266°F  
+150°C for 1h  
(+302°F for 1h)

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**Ambient temperature**

-40°C...+85°C  
(-40°F...+185°F)

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**Measuring cell**

400mbar...400bar  
(15psi...6000psi)  
relative/ absolute

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**Smallest calibratable span**

20 mbar (0.3 psi)

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**Vacuum resistance**

10 mbar (0.15 psi)

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**Max. Turn down**

20:1

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**Max. overpressure limit**

600bar (9000psi)

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**Pressure****Process connection**

Thread:

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

Flange:

DN25...DN80,

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

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**Process connection hygienic**

Tri-Clamp

DIN11851

NEUMO

Varivent N

SMS

DRD

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**Material process membrane**

316L, AlloyC,

Rhodium&gt;Gold

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**Material gasket**

None, measuring cell welded

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**Fill fluid**

Silicone oil,

Inert oil

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**Material housing**

Die-cast aluminum,

AISI 316L

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**Communication**

4...20 mA

4...20 mA HART

PROFIBUS PA

FOUNDATION Fieldbus

IO-Link

## Pressure

### **Certificates / Approvals**

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

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### **Safety approvals**

SIL

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### **Design approvals**

EN10204-3.1

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### **Hygienic approvals**

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### **Marine approvals**

GL/ ABS/ LR/ BV/ DNV

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### **Drinking water approvals**

NSF

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### **Successor**

PMP51B

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