

# Absolute and gauge pressure Cerabar PMP51

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



## 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

More information and current pricing:

[www.ie.endress.com/PMP51](http://www.ie.endress.com/PMP51)

## Specs at a glance

- **Accuracy** Standard 0.1% Platinum 0.075%
- **Process temperature** -40°C...130°C (-40°F...266°F)
- **Pressure measuring range** 1 bar...400 bar (15 psi...6000 psi)
- **Process pressure / 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%

#### 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)

## Pressure

**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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**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>Gold

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**Pressure**

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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

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**Certificates / Approvals**

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

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**Safety approvals**

SIL

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**Design approvals**

EN10204-3.1  
NACE MR0175

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**Hygienic approvals**

3A, EHEDG  
CoC ASME-BPE

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**Marine approvals**

GL/ ABS/ LR/ BV/ DNV

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**Drinking water approvals**

NSF

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## Pressure

**Successor**  
PMP51B

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## Continuous / Liquids

**Measuring principle**  
Absolute and gauge pressure

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**Characteristic / Application**  
Smart and reliable pressure transmitter, with piezoresistive measuring cell  
and metal welded process isolating diaphragm

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**Supply / Communication**  
4 ..20 mA HART:  
11,5...45 V DC  
Ex ia: 11,5...30 V DC  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Accuracy**  
Standard 0.1%  
Platinum 0.075%

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**Long term stability**  
< 0,1% von 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**  
-40°C...130°C  
(-40°F...266°F)

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**Continuous / Liquids****Process pressure / 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) H2O

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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

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### Marine approval

GL/ ABS/ LR/ BV/ DNV

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### Drinking water approvals

NSF

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### Options

Local display

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### Successor

PMP51B

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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.ie.endress.com/PMP51](http://www.ie.endress.com/PMP51)