

# Absolute and gauge pressure Cerabar PMC51

Digital pressure transmitter with oil-free ceramic sensor for measurement in gases or liquids



More information and current pricing:

[www.id.endress.com/PMC51](http://www.id.endress.com/PMC51)

## Benefits:

- Best fit for vacuum applications and applications with corrosive and abrasive media
- Process safety through membrane breakage detection
- Overload-resistant high purity ceramic sensor (99.9%  $\text{Al}_2\text{O}_3$ )
- Condensation resistant also for hygienic applications
- Easy menu-guided commissioning via local display, 4 to 20mA with HART, PROFIBUS PA, FOUNDATION Fieldbus
- Process pressure up to SIL2, certified to IEC 61508 and IEC 61511
- Available with mounted manifolds: always fit, always tested for leaks

## Specs at a glance

- **Accuracy** Standard 0.1% Platinum 0.075%
- **Process temperature** -20°C...125°C (-4°F...275°F)
- **Pressure measuring range** 100 mbar...40 bar (1.5psi...600psi)
- **Process pressure absolute / max. overpressure limit** 60 bar (900 psi)
- **Main wetted parts** Ceraphire Sealing Alloy C276 316L

**Field of application:** The Cerabar PMC51 digital pressure transmitter with capacitive, oil-free ceramic measuring cell is typically used in process and hygienic applications for pressure, level, volume or mass measurement in liquids and gases. It guarantees high degree of system safety thanks to vacuum-proof ceramic membrane with integrated breakage detection. Quick Setup with adjustable measuring range allows

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

## Features and specifications

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### Pressure

#### Measuring principle

Absolute and gauge pressure

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#### Characteristic

Smart and reliable pressure transmitter with capacitive measuring cell and ceramic process isolating diaphragm Ceraphire)

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#### Supply voltage

4...20 mA 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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#### Reference Accuracy

Standard 0.1%  
Platinum 0.075%

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#### Long term stability

0.2% of URL/ year  
0.4% of URL/ 5 years  
0.5% 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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## Pressure

**Ambient temperature**

-40°C...+85°C  
(-40°F...+185°F)

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**Measuring cell**

100 mbar...40 bar  
(1.5 psi...600 psi)  
relative/ absolute

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**Smallest calibratable span**

10 mbar (0.15 psi)

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**Vacuum resistance**

0 mbar abs.

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**Max. Turn down**

20:1

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**Max. overpressure limit**

60 bar (900 psi)

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**Process connection**

Thread:  
G1/2...G2, R1/2, MNPT1/2  
Flange:  
DN25...DN80,  
ASME 1"...4",  
JIS 10K

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**Process connection hygienic**

Tri-Clamp  
DIN11851  
DIN11864-1  
NEUMO  
Varivent N  
SMS  
DRD

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## Pressure

**Material process membrane**

Ceramic

**Material gasket**

Viton, EPDM, NBR, Kalrez

**Fill fluid**

None, dry measuring cell

**Material housing**Die-cast aluminum,  
AISI 316L**Communication**4...20 mA  
4...20 mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus  
IO-Link**Certificates / Approvals**

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

**Safety approvals**

SIL

**Design approvals**EN10204-3.1  
NACE MR0175**Hygienic approvals**CoC ASME-BPE  
3A, EHEDG**Marine approvals**

GL/ ABS/ LR/ BV/ DNV

**Drinking water approvals**

NSF

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**Pressure****Successor**PMC51B

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**Continuous / Liquids****Measuring principle**Absolute and gauge pressure

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**Characteristic / Application**

Smart and reliable pressure transmitter, with capacitive measuring cell and ceramic process isolating diaphragm (Ceraphire)

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**Supply / Communication**

4 ..20 mA HART:  
11,5...45V DC  
Ex ia: 11,5...30V 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% of URL/ year  
< 0,25% of URL/ 5 years  
< 0,4% of URL/ 10 years

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**Ambient temperature**

-40°C...85°C  
(-40°F...185°F)

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**Process temperature**

-20°C...125°C  
(-4°F...275°F)

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**Continuous / Liquids****Process pressure absolute / max. overpressure limit**60 bar (900 psi)

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**Pressure measuring range**100 mbar...40 bar  
(1.5psi...600psi)

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**Main wetted parts**Ceraphire  
Sealing  
Alloy C276  
316L

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**Process connection**Threads  
Flanges (DIN, ASME, JIS)

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**Max. measurement distance**400 m (1312 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 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

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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

PMC51B

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### Application limits

Measuring cell: ceramics

If pressurized, possibly use differential pressure measurement with two pressure transmitters (electronic dp). Observe ratio head pressure : hydrostatic pressure

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