

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.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% Al_2O_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

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

Features and specifications

Pressure

Measuring principle

Absolute and gauge pressure

Characteristic

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

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)

Reference Accuracy

Standard 0.1%

Platinum 0.075%

Long term stability

0.2% of URL/ year

0.4% of URL/ 5 years

0.5% 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)

Measuring cell

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

Smallest calibratable span

10 mbar (0.15 psi)

Vacuum resistance

0 mbar abs.

Max. Turn down

20:1

Max. overpressure limit

60 bar (900 psi)

Process connection

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

Process connection hygienic

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

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

Pressure**Successor**
PMC51B

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

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

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

Accuracy
Standard 0.1%
Platinum 0.075%

Long term stability
< 0,1% of URL/ year
< 0,25% of URL/ 5 years
< 0,4% of URL/ 10 years

Ambient temperature
-40°C...85°C
(-40°F...185°F)

Process temperature
-20°C...125°C
(-4°F...275°F)

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

Pressure measuring range100 mbar...40 bar
(1.5psi...600psi)

Main wetted partsCeraphire
Sealing
Alloy C276
316L

Process connectionThreads
Flanges (DIN, ASME, JIS)

Max. measurement distance400 m (1312 ft) H₂O

Communication4...20 mA HART
PROFIBUS PA
FOUNDATION Fieldbus
IO-Link

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

Safety approvalsSIL

Design approvalsEN 10204-3.1
NACE MR0175, MR0103

Hygienic approvals3A, EHEDG
CoC ASME-BPE

Continuous / Liquids

Marine approval

GL/ ABS/ LR/ BV/ DNV

Drinking water approvals

NSF

Options

Local display

Successor

PMC51B

Application limits

Measuring cell: ceramics

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

More information www.endress.com/PMC51