

Differential pressure Deltabar FMD78

Differential pressure transmitter with two diaphragm seals for differential pressure and level



F L E X

Benefits:

- Large variety of different process connections and membrane materials
- New TempC Membrane for diaphragm seals: Minimum temperature effects and short recovery times
- Highest safety due to gas tight feedthrough with capabilities up to SIL2/3, certified to IEC 61508
- Easy menu-guided commissioning via local display, 4 to 20 mA with HART, PROFIBUS PA, FOUNDATION Fieldbus
- HistoROM data management concept for fast and easy commissioning, maintenance and diagnostics
- Cost savings with modular concept for easy replacement of sensor, display or electronics
- Seamless and independent system integration (HART/PA/FF)

More information and current pricing:

www.at.endress.com/FMD78

Specs at a glance

- **Accuracy** 0,075% + influence of diaphragm seal
- **Process temperature** -40°C...400°C (-40°F...752°F)
- **Pressure measuring range** 100mbar...40bar (1.5psi ... 600 psi)
- **Process pressure absolute / max. overpressure limit** 160bar (2400 psi)
- **Main wetted parts** Alloy C276 316L Monel Tantalum

Field of application: The Deltabar FMD78 differential pressure transmitter with metal sensor uses two capillary diaphragm seals. Typically used in process and hygiene applications for continuous measurement of pressure differences in liquids, vapors, gases and dusts. The integrated HistoROM data module makes the management of

process and device parameters easy. Designed according to IEC 61508 for use in SIL3 safety applications.

Features and specifications

Pressure

Measuring principle

Differential pressure

Characteristic

Digital transmitter with metallic measuring diaphragms diaphragm seals and capillaries

Modular transmitter

Long-term stability

Secondary process barrier

enhanced safety via self diagnostic functions.

Supply voltage

4...20 mA HART

10,5...45V DC (Non Ex):

Ex ia: 10,5...30V DC

PROFIBUS PA:

9...32 V DC (Non Ex)

FOUNDATION Fieldbus:

9...32 V DC (Non Ex)

Reference Accuracy

0,075% + influence of diaphragm seal

Pressure**Long term stability**

0.08 % of URL/ year

0.14 % of URL/ 5 years

0.27 % of URL/ 10 years

Process temperature

-70°C...400°C

(-94°F...752°F)

Ambient temperature

-50°C...85°C

(-58°F...185°F)

Measuring cell

100 mbar...40 bar

(40 inH₂O...600 psi)

Smallest calibratable span

5 mbar (0.075 psi)

Vacuum resistance

50 mbar (0.73 psi)

Max. Turn down

100:1

Max. overpressure limit

160 bar

(2400 psi)

Process connection

Diaphragm seal (Pancake, threads)

Flanges (DIN, ASME)

Hygienic connections

Tri-Clamp ISO2852

Pressure**Process connection hygienic**

Tri-Clamp

DIN11851

NEUMO

Varivent

SMS

DRD

Universal adapter

Material process membrane

316L, AlloyC,

Tantal,

Gold-Rhodium

PTFE

Material gasket

None, diaphragm seal welded

Fill fluid

Silicone oil,

Inert oil,

Vegetable oil

Low- temperature oil

High- temperature oil

Pressure**Material housing**316L, Die-cast aluminum

Communication4...20 mA HART
PROFIBUS PA
FOUNDATION Fieldbus

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

Safety approvalsSIL

Design approvalsNACE MR0175
EN10204-3.1

Hygienic approvals3A, FDA

Marine approvalsGL/ ABS

Specialities

Diagnostic functions

TempC Membrane

SuccessorPMD78B

Continuous / Liquids**Measuring principle**Differential pressure

Continuous / Liquids**Characteristic / Application**

Digital transmitter with metallic measuring diaphragms diaphragm seals and capillaries

Modular transmitter

Long term stability

Enhanced safety via self diagnostic functions

Secondary process barrier

Specialities

TempC membrane

Supply / Communication

4...20 mA HART:

10,5...45V DC

Ex ia: 10,5...30V DC

PROFIBUS PA /

FOUNDATION Fieldbus:

9...32V DC

Accuracy

0,075% + influence of diaphragm seal

Long term stability

0,05% of URL/year

Ambient temperature

-50°C...85°C

(-58°F...185°F)

Process temperature

-40°C...400°C

(-40°F...752°F)

Process pressure absolute / max. overpressure limit

160bar (2400 psi)

Pressure measuring range

100mbar...40bar

(1.5psi ... 600 psi)

Continuous / Liquids

Main wetted parts

Alloy C276

316L

Monel

Tantalum

Process connection

Diaphragm seal (Pancakes, threads)

Flanges (DIN, ASME)

Tri-Clamp ISO2852

Hygienic connections

Process connection hygienic

Tri-Clamp

DIN11851

NEUMO

Varivent

SMS

DRD

Universal adapter

Max. measurement distance

400m (1312ft) H2O

Communication

4...20 mA HART

PROFIBUS PA

FOUNDATION Fieldbus

Certificates / Approvals

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

Continuous / Liquids**Safety approvals**

SIL

Design approvals

EN10204-3.1

NACE MR0175, MR0103

Hygienic approvals

3A, EHEDG

Marine approval

GL/ ABS

Options

HistoROM/M-Dat

4-line digital display

SS- or Aluminiumhousing

Separate housing

Successor

PMD78B

Application limits

Measuring cell:

Metal welded

More information www.at.endress.com/FMD78