

Differential pressure Deltabar FMD77

Differential pressure transmitter with one diaphragm seal for level measurement



F L E X

Benefits:

- Large variety of different process connections and membrane materials
- Highest safety due to gas-tight feedthrough with capabilities up to SIL2/3, certified to IEC 61508
- New TempC Membrane minimizes influences of ambient and process temperature fluctuations
- 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.us.endress.com/FMD77

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...16bar (1.5psi...230 psi)
- **Process pressure / max. overpressure limit** 160bar (2400 psi)
- **Main wetted parts** Alloy C276 316L Monel Tantalum

Field of application: The Deltabar FMD77 differential pressure transmitter with metal sensor uses a one-sided diaphragm seal or diaphragm seals on both sides with a capillary on the low pressure side. Typically used in the process industry for continuous level measurement in liquids. 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, one side with diaphragm seal

Modular transmitter

Long-term stability

Secondary process barrier

enhanced safety via self diagnostic functions

Supply voltage

4...20mA 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

Long term stability

0.08 % of URL/ year

0.14 % of URL/ 5 years

0.27 % of URL/ 10 years

Process temperature

-40°C...400°C

(-40°F...752°F)

Pressure

Ambient temperature

-50°C...85°C
(-58°F...185°F)

Measuring cell

100 mbar...16 bar
(40 inH2O...240 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

Low pressure side:
1/4-18NPT
RC1/4"
High pressure side:
Flanges (DIN, ASME, JIS)

Material process membrane

316L, AlloyC,
Tantal,
Gold-Rhodium,
PTFE

Material gasket

None, diaphragm seal welded

Pressure**Fill fluid**

Silicone oil,
Inert oil,
Vegetable oil
Low- temperature oil
High- temperature oil

Material housing

316L, Die-cast aluminum

Communication

4...20 mA HART
PROFIBUS PA
FOUNDATION Fieldbus

Certificates / Approvals

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

Safety approvals

SIL

Design approvals

NACE MR0175
EN10204-3.1

Specialities

Diagnostic functions

Successor

PMD78B

Continuous / Liquids**Measuring principle**

Differential pressure

Continuous / Liquids**Characteristic / Application**

Digital transmitter with metallic measuring diaphragms one side with diaphragm seal

Modular transmitter

Long term stability

Enhanced safety via self diagnostic functions

Secondary process barrier

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 / max. overpressure limit

160bar (2400 psi)

Pressure measuring range

100mbar...16bar

(1.5psi...230 psi)

Continuous / Liquids**Main wetted parts**

Alloy C276

316L

Monel

Tantalum

Process connection

Low pressure side:

1/4-18NPT

RC1/4"

High pressure side:

Flanges (DIN, ASME, JIS)

Max. measurement distance

160m (525ft) H2O

Communication

4...20 mA HART

PROFIBUS PA

FOUNDATION Fieldbus

Certificates / Approvals

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

Safety approvals

SIL

Design approvals

EN10204-3.1

NACE MR0175, MR0103

Options

HistoROM/M-Dat

4-line digital display

SS- or Aluminiumhousing

Separate housing

Successor

PMD78B

Continuous / Liquids

Application limits

Measuring cell:
Metal welded

More information www.us.endress.com/FMD77