

# Drukverschil Deltabar FMD78

## Drukverschiltransmitter met twee voorzetmembranen voor drukverschil en niveau



Meer informatie en actuele prijzen:

[www.be.endress.com/FMD78](http://www.be.endress.com/FMD78)

### Voordelen:

- Grote verscheidenheid aan procesaansluitingen en membraanmaterialen
- Nieuw TempC-membraan voor voorzetmembranen: minimale temperateureffecten en korte hersteltijden
- Optimale veiligheid dankzij gasdichte doorvoer met mogelijkheden tot SIL2/3, gecertificeerd volgens IEC 61508
- Eenvoudige menugestuurde inbedrijfstelling via lokaal display, 4-20 mA met HART, PROFIBUS PA, FOUNDATION Fieldbus
- HistoROM-datamanagementconcept voor snelle en eenvoudige inbedrijfstelling, onderhoud en diagnostiek
- Modulair concept voor eenvoudige vervanging van het display of de elektronica
- Naadloze en onafhankelijke systeemintegratie (HART/PA/FF)

### Overzicht specificaties

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

**Toepassingsgebied:** De Deltabar FMD78-drukverschiltransmitter met metalen sensor maakt gebruik van twee capillaire voorzetmembranen. Veel ingezet in proces- en hygiënetoepassingen voor continue drukverschilmetingen in vloeistoffen, dampen, gassen en stof. De geïntegreerde HistoROM-datamodule maakt het beheer van proces- en

instrumentparameters eenvoudig. Ontworpen volgens IEC 61508 voor gebruik in SIL3-veiligheidstoepassingen.

## Kenmerken en specificaties

### Pressure

#### Meetprincipe

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

#### 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)

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**Pressure****Ambient temperature**

-50°C...85°C  
(-58°F...185°F)

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**Measuring cell**

100 mbar...40 bar  
(40 inH2O...600 psi)

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**Smallest calibratable span**

5 mbar (0.075 psi)

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**Vacuum resistance**

50 mbar (0.73 psi)

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**Max. Turn down**

100:1

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**Max. overpressure limit**

160 bar  
(2400 psi)

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**Process connection**

Diaphragm seal (Pancake, threads)  
Flanges (DIN, ASME)  
Hygienic connections  
Tri-Clamp ISO2852

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**Process connection hygienic**

Tri-Clamp  
DIN11851  
NEUMO  
Varivent  
SMS  
DRD  
Universal adapter

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**Pressure****Material process membrane**

316L, AlloyC,  
Tantal,  
Gold-Rhodium  
PTFE

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**Material gasket**

None, diaphragm seal welded

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**Fill fluid**

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

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**Material housing**

316L, Die-cast aluminum

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**Communication**

4...20 mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Certificates / Approvals**

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

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**Safety approvals**

SIL

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**Design approvals**

NACE MR0175  
EN10204-3.1

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**Hygienic approvals**

3A, FDA

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**Marine approvals**

GL/ ABS

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## Pressure

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### Specialities

Diagnostic functions  
TempC Membrane

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### Successor

PMD78B

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## Continuous / Liquids

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### Meetprincipe

Differential pressure

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### 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

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### Specialities

TempC membrane

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### Supply / Communication

4...20 mA HART:  
10,5...45V DC  
Ex ia: 10,5...30V DC  
PROFIBUS PA /  
FOUNDATION Fieldbus:  
9...32V DC

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### Accuracy

0,075% + influence of diaphragm seal

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### Long term stability

0,05% of URL/year

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## Continuous / Liquids

**Ambient temperature**

-50°C...85°C  
(-58°F...185°F)

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**Process temperature**

-40°C...400°C  
(-40°F...752°F)

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**Process pressure / max. overpressure limit**

160bar (2400 psi)

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**Pressure measuring range**

100mbar...40bar  
(1.5psi ... 600 psi)

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**Main wetted parts**

Alloy C276  
316L  
Monel  
Tantalum

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**Process connection**

Diaphragm seal (Pancakes, threads)  
Flanges (DIN, ASME)  
Tri-Clamp ISO2852  
Hygienic connections

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**Process connection hygienic**

Tri-Clamp  
DIN11851  
NEUMO  
Varivent  
SMS  
DRD  
Universal adapter

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**Max. meetafstand**

400m (1312ft) H2O

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**Continuous / Liquids****Communication**

4...20 mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Certificates / Approvals**

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

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**Safety approvals**

SIL

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**Design approvals**

EN10204-3.1  
NACE MR0175, MR0103

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**Hygienic approvals**

3A, EHEDG

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**Marine approval**

GL/ ABS

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**Options**

HistoROM/M-Dat  
4-line digital display  
SS- or Aluminiumhousing  
Separate housing

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**Successor**

PMD78B

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**Application limits**

Measuring cell:  
Metal welded

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