

# Differential pressure Deltabar PMD75

Differential pressure transmitter with metal sensor for measurement of pressure differences



## Benefits:

- Best accuracy, reproducibility and long-term stability
- 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 20mA 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
- Overload-resistant up to 420bar / 42MPa / 6300psi, function-monitored
- Seamless and independent system integration (HART/PA/FF)

More information and current pricing:

[www.endress.com/PMD75](http://www.endress.com/PMD75)

## Specs at a glance

- **Accuracy** Standard: 0.05% Platinum: up to 0.035%
- **Max. measurement error** 0,075% "PLATINUM" 0,05%
- **Process temperature** -40 °C...85 °C (-40 °F...185 °F)
- **Medium temperature range** Temperature gradient from pressure piping
- **Pressure measuring range** 10 mbar...250 bar (0.15 psi...3750 psi)

**Field of application:** The Deltabar PMD75 differential pressure transmitter with piezoresistive sensor and welded metallic membrane is used in all industries for continuous measurement in liquids, vapors and gases. The 3-key operation enables simple and reliable commissioning and operation. The integrated HistoROM data module allows easy

management of process and device parameters. Designed according to IEC 61508 for use in SIL2/3 safety applications.

## Features and specifications

### Pressure

#### Measuring principle

Differential pressure

#### Characteristic

Digital transmitter with metallic measuring diaphragms

Modular transmitter

Long-term stability

High static pressure/Overload resistance

Secondary process barrier

#### 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

Standard: 0.05%

Platinum: up to 0.035%

#### Long term stability

0.03 % of URL/ year

0.05 % of URL/ 5 years

0.08 % of URL/ 10 years

#### Process temperature

-40°C...85°C

(-40°F...185°F)

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**Pressure****Ambient temperature**

-50°C...85°C  
(-58°F...185°F)

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**Measuring cell**

10 mbar...250 bar  
(0.15 psi...3750 psi)

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**Smallest calibratable span**

1 mbar (0.015 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**

On one side:  
420 bar  
(6300psi)

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**Process connection**

1/4-18NPT  
RC1/4"

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**Material process membrane**

316L, AlloyC,  
Tantal,  
Gold-Rhodium

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**Material gasket**

Viton, PTFE, EPDM, NBR

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**Fill fluid**

Silicone oil  
Inert oil

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**Pressure****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 MR0103  
EN10204-3.1

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**Marine approvals**GL/ ABS

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**Specialities**Diagnostic functions

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**Successor**PMD75B

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**Continuous / Liquids****Measuring principle**Differential pressure

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**Continuous / Liquids****Characteristic / Application**

Digital transmitter with metallic measuring diaphragms  
Modular transmitter  
Long term stability  
High static pressure/Overload resistance  
Enhanced safety via self diagnostic functions  
Secondary process barrier

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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**

Standard: 0.05%  
Platinum: up to 0.035%

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**Long term stability**

0,05% of URL/year

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**Ambient temperature**

-50 °C...85 °C  
(-58 °F...185 °F)

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**Process temperature**

-40 °C...85 °C  
(-40 °F...185 °F)

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**Process pressure / max. overpressure limit**

420 bar (6300 psi)

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**Pressure measuring range**

10 mbar...250 bar  
(0.15 psi...3750 psi)

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**Continuous / Liquids****Main wetted parts**

Alloy C276

316L

Monel

Tantalum

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**Process connection**

1/4-18NPT

RC1/4"

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**Max. measurement distance**400 m (1.312 ft) H<sub>2</sub>O

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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

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**Safety approvals**

SIL

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**Design approvals**

EN 10204-3.1

NACE MR0175, MR0103

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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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**Continuous / Liquids**

**Successor**  
PMD75B

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**Application limits**  
Measuring cell:  
Metal welded

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**Liquids**

**Measuring principle**  
Differential pressure

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**Product headline**  
Digital transmitter with metallic measuring  
diaphragms  
Modular transmitter  
Long-term stability  
High static pressure/Overload resistance  
Enhanced safety via self diagnostic functions  
Secondary process barrier

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**Max. measurement error**  
0,075%  
"PLATINUM" 0,05%

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**Max. process pressure**  
max. 420 bar  
(max. 2175 psi)

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**Medium temperature range**  
Temperature gradient from pressure piping

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**Display/Operation**  
Option

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**Outputs**  
4...20mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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## Liquids

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### Digital communication

HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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### Hazardous area approvals

ATEX, FM, CSA, IECEx, INMETRO, NEPSI, TIIS

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### Functional safety

SIL

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### Material certificates

NACE MR0103  
NACE MR0175  
EN10204-3.1

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## Steam

### Measuring principle

Differential pressure

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### Product headline

Digital transmitter with metallic measuring diaphragms  
Modular transmitter  
Long-term stability  
High static pressure/Overload resistance  
Enhanced safety via self diagnostic functions  
Secondary process barrier

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### Max. measurement error

0,075%  
"PLATINUM" 0,05%

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### Max. process pressure

max. 420 bar  
(max. 6091 psi)

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## Steam

**Medium temperature range**

Temperature gradient from pressure piping

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**Display/Operation**

Option

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**Outputs**

4...20mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Digital communication**

HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Hazardous area approvals**

ATEX, FM, CSA, IECEx, INMETRO, NEPSI, TIIS

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**Functional safety**

SIL

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**Material certificates**

NACE MR0103  
NACE MR0175  
EN10204-3.1

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## Gas

**Measuring principle**

Differential pressure

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## Gas

**Product headline**

Digital transmitter with metallic measuring diaphragms  
Modular transmitter  
Long-term stability  
High static pressure/Overload resistance  
Enhanced safety via self diagnostic functions  
Secondary process barrier

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**Max. measurement error**

0,075%  
"PLATINUM" 0,05%

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**Max. process pressure**

max. 420 bar  
(max. 6 091 psi)

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**Medium temperature range**

Temperature gradient from pressure piping

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**Display/Operation**

Option

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**Outputs**

4...20mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Digital communication**

HART  
PROFIBUS PA  
FOUNDATION Fieldbus

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**Hazardous area approvals**

ATEX, FM, CSA, IECEx, INMETRO, NEPSI, TIIS

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**Functional safety**

SIL

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Gas

**Material certificates**

NACE MR0103

NACE MR0175

EN10204-3.1

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More information [www.endress.com/PMD75](http://www.endress.com/PMD75)