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)

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)
### Pressure

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>-50°C...85°C (-58°F...185°F)</td>
</tr>
<tr>
<td><strong>Measuring cell</strong></td>
<td>10 mbar...250 bar (0.15 psi...3750 psi)</td>
</tr>
<tr>
<td><strong>Smallest calibratable span</strong></td>
<td>1 mbar (0.015 psi)</td>
</tr>
<tr>
<td><strong>Vacuum resistance</strong></td>
<td>50 mbar (0.73 psi)</td>
</tr>
<tr>
<td><strong>Max. Turn down</strong></td>
<td>100:1</td>
</tr>
<tr>
<td><strong>Max. overpressure limit</strong></td>
<td>On one side: 420 bar (6300 psi)</td>
</tr>
<tr>
<td><strong>Process connection</strong></td>
<td>1/4-18NPT, RC1/4&quot;</td>
</tr>
<tr>
<td><strong>Material process membrane</strong></td>
<td>316L, AlloyC, Tantal, Gold-Rhodium</td>
</tr>
<tr>
<td><strong>Material gasket</strong></td>
<td>Viton, PTFE, EPDM, NBR</td>
</tr>
<tr>
<td><strong>Fill fluid</strong></td>
<td>Silicone oil, Inert oil</td>
</tr>
</tbody>
</table>
### Pressure

**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 MR0103
EN10204-3.1

**Marine approvals**
GL/ ABS

**Specialities**
Diagnostic functions

**Successor**
PMD75B

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### Continuous / Liquids

**Measuring principle**
Differential pressure
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

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

**Accuracy**
- Standard: 0.05%
- Platinum: up to 0.035%

**Long term stability**
- 0.05% of URL/year

**Ambient temperature**
- -50 °C...85 °C
  (-58 °F...185 °F)

**Process temperature**
- -40 °C...85 °C
  (-40 °F...185 °F)

**Process pressure / max. overpressure limit**
- 420 bar (6300 psi)

**Pressure measuring range**
- 10 mbar...250 bar
  (0.15 psi...3750 psi)
## Continuous / Liquids

<table>
<thead>
<tr>
<th><strong>Main wetted parts</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Alloy C276</td>
</tr>
<tr>
<td>316L</td>
</tr>
<tr>
<td>Monel</td>
</tr>
<tr>
<td>Tantalum</td>
</tr>
</tbody>
</table>

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<tr>
<th><strong>Process connection</strong></th>
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<tr>
<td>1/4-18NPT</td>
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<td>RC1/4”</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Max. measurement distance</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>400 m (1.312 ft) H2O</td>
</tr>
</tbody>
</table>

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<th><strong>Communication</strong></th>
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<tr>
<td>4...20 mA HART</td>
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<tr>
<td>PROFIBUS PA</td>
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<tr>
<td>FOUNDATION Fieldbus</td>
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<th><strong>Design approvals</strong></th>
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<tbody>
<tr>
<td>EN 10204-3.1</td>
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<tr>
<td>NACE MR0175, MR0103</td>
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<th><strong>Marine approval</strong></th>
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<th><strong>Options</strong></th>
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<tbody>
<tr>
<td>HistoROM/M-Dat</td>
</tr>
<tr>
<td>4-line digital display</td>
</tr>
<tr>
<td>SS- or Aluminium housing</td>
</tr>
<tr>
<td>Separate housing</td>
</tr>
<tr>
<td>Continuous / Liquids</td>
</tr>
<tr>
<td>---------------------</td>
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<tr>
<td>PMD75B</td>
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</tbody>
</table>

**Application limits**
Measuring cell:
Metal welded

<table>
<thead>
<tr>
<th>Liquids</th>
<th>Measuring principle</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Differential pressure</td>
</tr>
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</table>

**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

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

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

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

**Display/Operation**
Option

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

**Digital communication**
- HART
- PROFIBUS PA
- FOUNDATION Fieldbus

**Hazardous area approvals**
- ATEX, FM, CSA, IECEx, INMETRO, NEPSI, TIIS

**Functional safety**
- SIL

**Material certificates**
- NACE MR0103
- NACE MR0175
- EN10204-3.1

Steam

**Measuring principle**
- Differential pressure

**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

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

**Max. process pressure**
- max. 420 bar
- (max. 6091 psi)
### Steam

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

**Display/Operation**
Option

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

**Digital communication**
- HART
- PROFIBUS PA
- FOUNDATION Fieldbus

**Hazardous area approvals**
- ATEX
- FM
- CSA
- IECEx
- INMETRO
- NEPSI
- TIIS

**Functional safety**
- SIL

**Material certificates**
- NACE MR0103
- NACE MR0175
- EN10204-3.1

### Gas

**Measuring principle**
Differential pressure
**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

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

**Max. process pressure**
max. 420 bar
(max. 6 091 psi)

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

**Display/Operation**
Option

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

**Digital communication**
HART
PROFIBUS PA
FOUNDATION Fieldbus

**Hazardous area approvals**
ATEX, FM, CSA, IECEx, INMETRO, NEPSI, TIIS

**Functional safety**
SIL
Gas

**Material certificates**

NACE MR0103
NACE MR0175
EN10204-3.1

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