Differential pressure
Deltabar PMD55

Differential pressure transmitter with metal sensor for measurement of pressure differences

Benefits:
- Easy menu-guided commissioning via local display, 4 to 20mA with HART, PROFIBUS PA, FOUNDATION Fieldbus
- Easy process adaptation to impulse line high-pressure/low-pressure change via electric switch on the main electronics
- Compact design and modular concept for easy replacement of display or electronics
- Process pressure up to SIL2, certified to IEC 61508 and IEC 61511
- Global usage thanks to the widest range of approvals for industries and applications

Specs at a glance
- **Accuracy** 0,1% "PLATINUM" 0,075%
- **Max. measurement error** 0,1% "PLATINUM" 0,075%
- **Process temperature** -40 °C...85 °C (-40 °F...185 °F)
- **Medium temperature range** Temperature gradient from pressure piping
- **Pressure measuring range** 10mbar...40bar (0.15...580psi)

Field of application: The Deltabar PMD55 differential pressure transmitter with piezoresistive sensor and welded metallic membrane is typically used in process or environmental applications for continuous measurement of pressure differences in liquids, vapors and gases. Quick Setup with adjustable measuring range allows simple commissioning, reduces costs and saves time. SIL2 according to IEC 61508 / IEC 61511.

Features and specifications
Steam

**Measuring principle**
Differential pressure

**Product headline**
Digital transmitter with metallic measuring diaphragms
Compact size
Modular transmitter
Long-term stability

**Max. measurement error**
0,1%
"PLATINUM" 0,075%

**Max. process pressure**
10mbar...40bar
(0.15...580psi)

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

**Display/Operation**
Option

**Outputs**
4...20mA HART

**Digital communication**
HART

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

**Functional safety**
SIL
Steam

Material certificates
NACE MR0103
NACE MR0175
EN10204-3.1

Pressure

Measuring principle
Differential pressure

Characteristic
Digital transmitter with metallic measuring diaphragms
Compact size
Modular transmitter
Long-term stability

Supply voltage
4...20 mA HART
11,5...45V DC (Non Ex):
Ex ia: 11,5...30V DC
PROFIBUS PA:
9...32 V DC (Non Ex)
FOUNDATION Fieldbus:
9...32 V DC (Non Ex)

Reference Accuracy
Standard 0.1%
Platinum 0.075%

Long term stability
0.05% of URL/ year
0.13% of URL/ 5 years
0.23% of URL/ 10 years

Process temperature
-40°C...+85°C
(-40°F...+185°F)
### Pressure

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>-40°C...+85°C (-40°F...+185°F)</td>
</tr>
<tr>
<td><strong>Measuring cell</strong></td>
<td>10 mbar...40 bar (0.15...580 psi)</td>
</tr>
<tr>
<td><strong>Smallest calibratable span</strong></td>
<td>10 mbar (0.15 psi)</td>
</tr>
<tr>
<td><strong>Max. Turn down</strong></td>
<td>20:1</td>
</tr>
<tr>
<td><strong>Max. overpressure limit</strong></td>
<td>on one side: 160 bar (2300 psi)</td>
</tr>
<tr>
<td><strong>Process connection</strong></td>
<td>1/4-18 NPT</td>
</tr>
<tr>
<td><strong>Material process membrane</strong></td>
<td>316L, AlloyC,</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>
<tr>
<td><strong>Material housing</strong></td>
<td>Die-cast aluminum</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>4...20 mA HART, PROFIBUS PA, FOUNDATION Fieldbus</td>
</tr>
</tbody>
</table>
Pressure

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

Safety approvals
SIL

Design approvals
NACE MR0175
EN10204-3.1

Successor
PMD55B

Gas

Measuring principle
Differential pressure

Product headline
Digital transmitter with metallic measuring diaphragms
Compact size
Modular transmitter
Long-term stability

Max. measurement error
0,1%
"PLATINUM" 0,075%

Max. process pressure
10mbar...40bar
(0.15...580psi)

Medium temperature range
Temperature gradient from pressure piping

Display/Operation
Option
## Gas

### Outputs
4...20mA HART

### Digital communication
HART

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

### Functional safety
SIL

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

## Continuous / Liquids

### Measuring principle
Differential pressure

### Characteristic / Application
Digital transmitter with metallic measuring diaphragms
Compact size
Modular transmitter
Long-term stability

### Supply / Communication
4...20mA HART:
11,5...45V DC
Ex ia: 11,5...30V DC

### Accuracy
0,1%
"PLATINUM" 0,075%
<table>
<thead>
<tr>
<th>Continuous / Liquids</th>
<th></th>
</tr>
</thead>
</table>
| **Long term stability** | 0.05% of URL/year  
0.125% of URL/5 years |
| **Ambient temperature** | -40°C...85°C  
(-40°F...185°F) |
| **Process temperature** | -40 °C...85 °C  
(-40 °F...185 °F) |
| **Process pressure / max. overpressure limit** | 160 bar |
| **Pressure measuring range** | 10mbar...40bar  
(0.15...580psi) |
| **Main wetted parts** | 316L |
| **Process connection** | 1/4-18 NPT |
| **Communication** | 4...20mA HART  
PROFIBUS PA  
FOUNDATION Fieldbus |
| **Certificates / Approvals** | ATEX, FM, CSA, CSA C/US, IEC Ex, INMETRO, NEPSI |
| **Safety approvals** | SIL |
Continuous / Liquids

**Design approvals**
EN 10204-3.1
NACE MR0175, MR0103
AD2000

**Options**
4-line digital display
Aluminium housing

**Successor**
PMD55B

**Application limits**
Measuring cell:
Metal welded

Liquids

**Measuring principle**
Differential pressure

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Temperature gradient from pressure piping
Liquids

Display/Operation
Option

Outputs
4...20mA HART

Digital communication
HART

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

Functional safety
SIL

Material certificates
NACE MR0103
NACE MR0175
EN10204-3.1

More information www.us.endress.com/PMD55