Hydrostatic Level measurement
Deltapilot FMB53

Pressure sensor with Contite measuring cell for hydrostatic level measurement

Benefits:
- Hermetically sealed Contite measuring cell with condensate-resistance, high reference accuracy: ±0.2%, optionally ±0.1% and minimum temperature effects
- Modular concept for easy replacement of display or electronics
- Seamless and independent system integration (HART/PA/FF)
- Easy and safe menu-guided operation: On-site via display module, via 4 to 20mA with HART, via PROFIBUS PA, via FOUNDATION Fieldbus
- International usage thanks to a wide range of approvals

Specs at a glance
- **Accuracy** Standard 0.2% Optional 0.1%
- **Process temperature** PE cable: -10°C...70°C / 14°F...158°F FEP cable: -10°C...80°C / 14°F...176°F
- **Pressure measuring range** 100mbar...10bar (1.5psi...150psi)
- **Process pressure / max. overpressure limit** 40 bar (600 psi)
- **Main wetted parts** Alloy C 316L Cable (PE/FEP) optional coating AuPt optional coating AuRh

Field of application: The Deltapilot FMB53 is a cable version with mounting clamp. This device with the Contite measuring cell is typically used in the environmental industries. It is made for level measurement in liquid and paste-like media in open or closed containers and unaffected by possible foam formation. For use in SIL2 safety systems.

Features and specifications
# Pressure

## Measuring principle
Hydrostatic pressure

## Characteristic
Pressure transmitter for hydrostatic level measurement with flush mounted metallic Contite measuring cell:
Hermetically sealed, condensate-resistant, climatic-proofed and with lowest temperature influences
Cable version with suspension clamp

## Supply voltage
- 4...20 mA HART
- 10,5...45 VDC (Non Ex):
  - Ex ia: 10,5...30 VDC
  - PROFIBUS PA:
- 9...32 VDC (Non Ex)
- FOUNDATION Fieldbus:
  - 9...32 VDC (Non Ex)

## Reference Accuracy
- Standard 0.2%
- Optional 0.1%

## Long term stability
0.05 % of URL/year

## Process temperature
- PE cable: -10°C...70°C / 14°F...158°F
- FEP cable: -10°C...80°C / 14°F...176°F

## Ambient temperature
- -40°C...85°C
  (-40°F...185°F)

## Measuring cell
- 100 mbar...10 bar
  (1.5 psi...150 psi)
Pressure

- **Smallest calibratable span**
  10 mbar (1.45 psi)

- **Vacuum resistance**
  0 mbar abs.

- **Max. Turn down**
  100:1

- **Max. overpressure limit**
  40 bar (600 psi)

- **Process connection**
  Mounting clamp

- **Material process membrane**
  316L, AlloyC, Gold-Rhodium, PE, FEP

- **Material gasket**
  Viton, EPDM, Kalrez, none

- **Fill fluid**
  Inert oil, Synthetic 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, UK Ex
Pressure

<table>
<thead>
<tr>
<th><strong>Safety approvals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SIL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Design approvals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>EN10204-3.1</td>
</tr>
<tr>
<td>NACE MR0175</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Marine approvals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>GL/ ABS/ LR/ BV/ DNV</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Drinking water approvals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>KTW/ NSF/ ACS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specialities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modularity to differential pressure and process pressure devices (replacable display, universal electronics)</td>
</tr>
<tr>
<td>Diagnostic functions</td>
</tr>
</tbody>
</table>

Continuous / Liquids

<table>
<thead>
<tr>
<th><strong>Measuring principle</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrostatic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Characteristic / Application</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure transmitter for hydrostatic level measurement with flush mounted metallic Contite measuring cell:</td>
</tr>
<tr>
<td>Hermetically sealed, condensate-resistant and climatic-proofed</td>
</tr>
<tr>
<td>Cable version with suspension clamp</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Specialities</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modularity to differential pressure and process pressure devices (replacable display, universal electronics)</td>
</tr>
<tr>
<td>diagnostic functions</td>
</tr>
<tr>
<td>Hermetically sealed Contite measuring cell (condensate-resistant and climatic-proofed)</td>
</tr>
</tbody>
</table>
Continuous / Liquids

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

**Accuracy**
- Standard 0.2%
- Optional 0.1%

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

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

**Process temperature**
- PE cable: -10°C...70°C / 14°F...158°F
- FEP cable: -10°C...80°C / 14°F...176°F

**Process pressure / max. overpressure limit**
- 40 bar (600 psi)

**Pressure measuring range**
- 100mbar...10bar
- (1.5psi...150psi)

**Main wetted parts**
- Alloy C
- 316L
- Cable (PE/FEP)
- optional coating AuPt
- optional coating AuRh

**Process connection**
- Mounting clamp
Continuous / Liquids

**Max. measurement distance**
100 m (328 ft) H2O

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

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

**Safety approvals**
SIL

**Design approvals**
EN10204-3.1
NACE MRO175

**Marine approval**
GL/ ABS/ LR/ BV/ DNV

**Drinking water approvals**
KTW/ NSF/ ACS

**Options**
Initial device settings
Overvoltage protection

**Application limits**
If pressurized, usage of two pressure transmitters to measure the differential pressure (electronic dP)
Observe ratio head pressure : hydrostatic pressure

More information [www.us.endress.com/FMB53](http://www.us.endress.com/FMB53)