

# Hydrostatic Level measurement Deltapilot FMB53

Pressure sensor with Contite measuring cell  
for hydrostatic level measurement



More information and current pricing:

[www.de.endress.com/FMB53](http://www.de.endress.com/FMB53)

## Benefits:

- Hermetically sealed Contite measuring cell with condensate-resistance, high reference accuracy:  $\pm 0.2\%$ , optionally  $\pm 0.1\%$  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:  $-10^{\circ}\text{C} \dots 70^{\circ}\text{C}$  /  $14^{\circ}\text{F} \dots 158^{\circ}\text{F}$  FEP cable:  $-10^{\circ}\text{C} \dots 80^{\circ}\text{C}$  /  $14^{\circ}\text{F} \dots 176^{\circ}\text{F}$
- **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

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## Pressure

### Measuring principle

Hydrostatic pressure

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### 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

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### 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)

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### Reference Accuracy

Standard 0.2%  
Optional 0.1%

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### Long term stability

0.05 % of URL/year

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### Process temperature

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

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### Ambient temperature

-40°C...85°C  
(-40°F...185°F)

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### Measuring cell

100 mbar...10 bar  
(1.5 psi...150 psi)

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## 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

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## Pressure

### Safety approvals

SIL

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### Design approvals

EN10204-3.1

NACE MR0175

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### Marine approvals

GL/ ABS/ LR/ BV/ DNV

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### Drinking water approvals

KTW/ NSF/ ACS

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### Specialities

Modularity to differential pressure and process pressure devices  
(replacable display, universal electronics)

Diagnostic functions

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## Continuous / Liquids

### Measuring principle

Hydrostatic

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### Characteristic / Application

Pressure transmitter for hydrostatic level measurement with flush  
mounted metallic Contite measuring cell:

Hermetically sealed, condensate-resistant and climatic-proofed

Cable version with suspension clamp

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### Specialities

Modularity to differential pressure and process pressure devices  
(replacable display, universal electronics)

diagnostic functions

Hermetically sealed Contite measuring cell (condensate-resistant and  
climatic-proofed)

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**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)

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**Accuracy**

Standard 0.2%  
Optional 0.1%

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**Long term stability**

0.05 % of URL/year

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**Ambient temperature**

-40°C...85°C  
(-40°F...185°F)

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**Process temperature**

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

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**Process pressure / max. overpressure limit**

40 bar (600 psi)

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**Pressure measuring range**

100mbar...10bar  
(1.5psi...150psi)

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**Main wetted parts**

Alloy C  
316L  
Cable (PE/FEP)  
optional coating AuPt  
optional coating AuRh

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**Process connection**

Mounting clamp

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## Continuous / Liquids

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**Max. measurement distance**

100 m (328 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

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**Safety approvals**

SIL

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**Design approvals**

EN10204-3.1  
NACE MRO175

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**Marine approval**

GL/ ABS/ LR/ BV/ DNV

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**Drinking water approvals**

KTW/ NSF/ ACS

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**Options**

Initial device settings  
Overvoltage protection

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**Application limits**

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

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