

# Hydrostatic Level measurement Deltapilot FMB52

## Pressure sensor with Contite measuring cell for hydrostatic level measurement



More information and current pricing:

[www.endress.com/FMB52](http://www.endress.com/FMB52)

### 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** 100 mbar...10 bar (1.5 psi...150 psi)
- **Process pressure absolute / 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 FMB52 is a cable version including a fixed process connection. This device with the Contite measuring cell is typically used in the process and environmental industries. It is made for level measurement in liquid and paste-like media in open or closed containers and is unaffected by possible foam formation. For use in SIL2 safety systems.

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## 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

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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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## Pressure

**Measuring cell**

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

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**Smallest calibratable span**

10 mbar (1.45 psi)

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**Vacuum resistance**

0 mbar abs.

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**Max. Turn down**

100:1

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**Max. overpressure limit**

40 bar (600 psi)

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**Process connection**

Thread:

G1 1/2, MNPT1 1/2

Flange:

DN40...DN100,

ASME 2"...4",

JIS 10K

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**Material process membrane**

316L, AlloyC,

Gold-Rhodium

PE, FEP

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**Material gasket**

Viton, EPDM, Kalrez, none

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**Fill fluid**

Inert oil,

Synthetic oil

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**Material housing**

316L, Die-cast aluminum

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## Pressure

### 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

Overfill protection WHG  
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

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**Continuous / Liquids****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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**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 absolute / max. overpressure limit**

40 bar (600 psi)

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**Pressure measuring range**

100 mbar...10 bar

(1.5 psi...150 psi)

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

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

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**Process connection**

Thread:  
G1 1/2, MNPT1 1/2  
Flange:  
DN40...DN100,  
ASME 2"...4",  
JIS 10K

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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**

Overfill protection WHG  
SIL

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**Design approvals**

EN10204-3.1  
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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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## Continuous / Liquids

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### Options

Separate housing  
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  
In case of an open tank or shaft use FMB53 with mounting clamp.

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