

# Electronic differential pressure Deltabar FMD71

Electronic differential pressure system  
utilizing two ceramic sensor modules and one  
transmitter



## Benefits:

- Eliminates traditional mechanical issues resulting in greater process availability and reliability
- Overload-resistant high purity ceramic sensor (99.9% Al<sub>2</sub>O<sub>3</sub>)
- Safety risks are minimized with the new electronic differential pressure system architecture and design
- Lowest total cost of ownership due to reduced installation time, maintenance, downtime and spare requirements
- Multivariable level measurement: HART-based differential pressure, head pressure and sensor temperatures from one system
- Continuous health indication of the entire system via HART-based diagnostic
- High reproducibility and long-term stability

More information and current pricing:

[www.lasc.endress.com/FMD71](http://www.lasc.endress.com/FMD71)

## Specs at a glance

- **Accuracy** 0.075% of individual sensor, "PLATINUM" 0.05% of individual sensor
- **Process temperature** -25...+150°C (-13...+302°F)
- **Pressure measuring range** 100mbar...40bar (1.5psi...600psi)
- **Process pressure absolute / max. overpressure limit** 60 bar (900 psi)
- **Material process membrane** Ceramic 316L, AlloyC

**Field of application:** The electronic dp Deltabar FMD71 is a differential pressure system, used to measure the pressure or level, volume or mass of liquids in pressurized tanks or distillation columns/evaporators. The high pressure sensor (HP) measures the hydrostatic pressure. The low

pressure sensor (LP) measures the head pressure. The level is calculated in the transmitter using these two digital values. The electronic dp system eliminates issues of traditional differential pressure measurements.

## Features and specifications

### Pressure

#### Measuring principle

Differential pressure

#### Characteristic

Electronic differential pressure transmitter with ceramic sensor (Ceraphire) for level, volume or mass measurement in liquids.

#### Supply voltage

4...20 mA HART:  
12...45V DC (Non Ex)  
Ex ia: 12...30V DC

#### Reference Accuracy

0.075% of individual sensor,  
"PLATINUM" 0.05% of individual sensor

#### Long term stability

0.05% of URL/year of individual sensor

#### Process temperature

-25...+150°C  
(-13...+302°F)

#### Ambient temperature

-40...+80°C  
(-40...+176°F)

#### Measuring cell

100 mbar...40 bar  
(1.5 psi...600 psi)

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**Pressure****Vacuum resistance**0 mbar

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**Max. Turn down**100 : 1

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**Max. overpressure limit**60 bar (900 psi)

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**Process connection**

Threads

Flansch (DIN, ASME, JIS)

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**Process connection hygienic**

DIN11851

DIN11864-1

Tri-Clamp

DRD

Varivent

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**Material process membrane**

Ceramic

316L, AlloyC

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**Material gasket**Viton, Kalrez, EPDM, NBR, Silicone

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**Fill fluid**Silicone Oil

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**Material housing**

Die-cast aluminum

Stainless steel

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**Communication**4...20 mA HART

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**Certificates / Approvals**ATEX, FM, CSA, IECEx, NEPSI, INMETRO

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**Pressure****Design approvals**

NACE MR0175,  
EN10204-3.1,

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**Hygienic approvals**

EHEDG,  
3A

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**Continuous / Liquids****Measuring principle**

Differential pressure

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**Characteristic / Application**

Electronic differential pressure transmitter with ceramic sensor (Ceraphire) for level, volume or mass measurement in liquids.

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**Supply / Communication**

4...20 mA HART:  
12...45V DC  
Exia: 12...30V DC

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**Accuracy**

0.075% of individual sensor,  
"PLATINUM" 0.05% of individual sensor

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**Long term stability**

0.05% of URL/year of individual sensor

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**Ambient temperature**

-40...+80°C  
(-40...+176°F)

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**Process temperature**

-25...+150°C  
(-13...+302°F)

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**Process pressure absolute / max. overpressure limit**

60 bar (900 psi)

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**Continuous / Liquids****Pressure measuring range**

100mbar...40bar  
(1.5psi...600psi)

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**Process connection**

Threads  
Flanges (DIN, ASME, JIS)

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**Process connection hygienic**

DIN11851  
DIN11864-1  
Tri-Clamp  
DRD  
Varivent

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**Communication**

4...20 mA HART

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**Certificates / Approvals**

ATEX, FM, CSA, CSA C/US, IEC Ex, NEPSI, INMETRO

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**Design approvals**

NACE MR0175  
EN10204-3.1

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**Hygienic approvals**

FDA  
3A

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**Options**

4-line digital display  
SS- or Aluminium housing

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**Application limits**

Use Software Applicator Sizing Electronic DP

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