

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% Al₂O₃)
- 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.apsc.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

Continuous / Liquids

Measuring principle

Differential pressure

Characteristic / Application

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

Supply / Communication

4...20 mA HART:

12...45V DC

Exia: 12...30V DC

Accuracy

0.075% of individual sensor,

"PLATINUM" 0.05% of individual sensor

Long term stability

0.05% of URL/year of individual sensor

Ambient temperature

-40...+80°C

(-40...+176°F)

Process temperature

-25...+150°C

(-13...+302°F)

Continuous / Liquids**Process pressure absolute / max. overpressure limit**60 bar (900 psi)

Pressure measuring range100mbar...40bar
(1.5psi...600psi)

Process connectionThreads
Flanges (DIN, ASME, JIS)

Process connection hygienic

DIN11851

DIN11864-1

Tri-Clamp

DRD

Varivent

Communication4...20 mA HART

Certificates / ApprovalsATEX, FM, CSA, CSA C/US, IEC Ex, NEPSI, INMETRO

Design approvals

NACE MR0175

EN10204-3.1

Hygienic approvals

FDA

3A

Continuous / Liquids**Options**

4-line digital display

SS- or Aluminium housing

Application limitsUse Software Applicator Sizing Electronic DP

Pressure**Measuring principle**

Differential pressure

CharacteristicElectronic 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 stability0.05% of URL/year of individual sensor

Process temperature

-25...+150°C

(-13...+302°F)

Pressure

Ambient temperature

-40...+80°C

(-40...+176°F)

Measuring cell

100 mbar...40 bar

(1.5 psi...600 psi)

Vacuum resistance

0 mbar

Max. Turn down

100 : 1

Max. overpressure limit

60 bar (900 psi)

Process connection

Threads

Flansch (DIN, ASME, JIS)

Process connection hygienic

DIN11851

DIN11864-1

Tri-Clamp

DRD

Varivent

Material process membrane

Ceramic

316L, AlloyC

Pressure**Material gasket**

Viton, Kalrez, EPDM, NBR, Silicone

Fill fluid

Silicone Oil

Material housing

Die-cast aluminum

Stainless steel

Communication

4...20 mA HART

Certificates / Approvals

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Hygienic approvals

EHEDG,

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