Electronic differential pressure
Deltabar FMD72

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

Benefits:
- Eliminates traditional mechanical issues resulting in greater process availability and reliability
- 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
- Process safety assured with small flush mounted process connections in hygienic applications

Specs at a glance
- **Accuracy** 0.075% of individual sensor, "PLATINUM" 0.05% of individual sensor
- **Process temperature** –40...+125°C (~-40 ... +257°F)
- **Pressure measuring range** 400 mbar...10 bar (6 psi...150 psi)
- **Process pressure / max. overpressure limit** 160 bar (2400 psi)
- **Main wetted parts** 316L, Alloy C

Field of application: The electronic dp Deltabar FMD72 is a differential pressure system, used to measure the pressure, 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

<table>
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<tr>
<th>Pressure</th>
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<tr>
<td>Measuring principle</td>
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<tr>
<td>Differential pressure</td>
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<table>
<thead>
<tr>
<th>Characteristic</th>
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<tr>
<td>Electronic differential pressure transmitter with metal sensor for level, volume or mass measurement in liquids.</td>
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<table>
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<tr>
<th>Supply voltage</th>
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<tbody>
<tr>
<td>4...20 mA HART:</td>
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<tr>
<td>12...45V DC (Non Ex)</td>
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<td>Ex ia: 12...30V DC</td>
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<table>
<thead>
<tr>
<th>Reference Accuracy</th>
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<tr>
<th>Long term stability</th>
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<tbody>
<tr>
<td>0.05% of URL/year of individual sensor</td>
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<table>
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<th>Process temperature</th>
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<td>(–40...+257°F)</td>
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<table>
<thead>
<tr>
<th>Ambient temperature</th>
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<tbody>
<tr>
<td>–40...+80°C</td>
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<tr>
<td>(–40...+176°F)</td>
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<thead>
<tr>
<th>Measuring cell</th>
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<td>400 mbar...10 bar</td>
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<td>(6 psi...150psi)</td>
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</table>
### Vacuum resistance
10 mbar (0.15 psi)

### Max. overpressure limit
160 bar (2400 psi)

### Process connection
- Threads
- Flange (DIN, ASME, JIS)

### Process connection hygienic
- DIN11851
- DIN11864-1
- Tri-Clamp
- DRD
- Varivent

### Material process membrane
316L, AlloyC,

### Fill fluid
- Silicone oil
- Synthetic oil

### Material housing
- Die-cast aluminum
- Stainless steel

### Communication
4...20 mA HART

### Certificates / Approvals
- ATEX, FM, CSA, IECEx, NEPSI, INMETRO, UK Ex

### Design approvals
- NACE MR0175,
- EN10204-3.1,
Pressure

Hygienic approvals
EHEDG
3A

Continuous / Liquids

Measuring principle
Differential pressure

Characteristic / Application
Electronic differential pressure transmitter with metal sensor for level, volume or mass measurement in liquids.

Supply / Communication
4...20 mA HART

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
−40...+125°C
(−40 ... +257°F)

Process pressure / max. overpressure limit
160 bar (2400 psi)

Pressure measuring range
400 mbar...10 bar
(6 psi...150 psi)
## Continuous / Liquids

**Main wetted parts**
316L, Alloy C

**Process connection**
Threads
Flange (DIN, ASME, JIS)

**Process connection hygienic**
DIN11851
DIN11864-1
Tri-Clamp
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**Communication**
4...20 mA HART

**Certificates / Approvals**
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**Design approvals**
NACE MR0175
EN10204-3.1

**Hygienic approvals**
FDA

**Options**
4-line digital display
SS- or Aluminium housing

**Application limits**
Use the Software Applicator Sizing Electronic DP

More information [www.endress.com/FMD72](http://www.endress.com/FMD72)