

Nanomass Gas Density

The device for continuous gas density measurement in the process



More information and current pricing:

www.de.endress.com/DCEB

Benefits:

- High process safety and product quality – permanente process monitoring in real time
- Increased process efficiency – continuous measurement and fast response time
- High availability – maintenance-free
- Complete data transparency – integrated data logger
- Excellent price/performance ratio – multivariable measurement (temperature, pressure, concentration)
- Reliable – insensitive to vibrations

Field of application: Nanomass Gas Density is the first device for precise gas density measurement based on the revolutionary MEMS-Coriolis technology – a combination of innovative micro-technology and Endress+Hauser's long experience. For the first time, under economically attractive conditions parameters such as gas density or quality can be monitored continuously in the process. Nanomass Gas Density can be easily integrated into any existing process infrastructure.

Features and specifications

Density

Measuring principle

MEMS coriolis

Sensor features

High process safety and product quality – permanent process monitoring in real time. Increased process efficiency – continuous measurement and fast response time. High availability – maintenance-free. Integrated pressure and temperature measurement. Different hazardous area approvals available.

Density

Transmitter features

Complete data transparency – integrated data logger. Excellent price/performance ratio – multivariable measurement (temperature, pressure, concentration). Reliable – insensitive to vibrations. 2-line backlit display with push buttons.

Nominal diameter range

DN 0.7 (1/36")

Wetted materials

Micro channel:

Silicon; Schott Borofloat 33

Manifold

1.4542 (17-4 PH)

Connection:

Swagelok, 1.4404 (316L)

Pressure sensor:

1.4404 (316L)

O-ring: Viton

Process membrane: Ceramics (Al₂O₃)

Measured variables

Density, temperature, pressure, reference density, average molar mass, concentration

Max. measurement error

Density (gas): $\pm 0.1 \text{ kg/m}^3$

Temperature: $\pm 0.5^\circ\text{C}$

Pressure: $\pm 0.02 \text{ bar}$

Measuring range

0 to 30 kg/m^3 (0 to 0.03 g/cm^3 , 0 to 0.03 SGU)

Max. process pressure

20 bar (290 psi)

Medium temperature range

-20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$)

Density

Ambient temperature range

-20 to +60 °C (-4 to +140 °F)

Transmitter housing material

Powder-coated aluminium

Degree of protection

Standard: IP65/67

Display/Operation

2-line backlit display with push buttons

Configuration via local display and operating tools possible

USB or RS232 interface

Outputs

2 outputs:

4-20 mA (passive)

Inputs

None

Power supply

DC 8 to 28 V

Hazardous area approvals

ATEX, IECEx, UL C/US Cl. I

Other approvals and certificates

Calibration

NAMUR

Density/Concentration

Measuring principle

MEMS coriolis

Density/Concentration

Product headline

The device for continuous gas density measurement in the process. Highly accurate density and concentration measurement of non-corrosive, inflammable, non-inflammable gases and gas mixtures.

Sensor features

High process safety and product quality – permanent process monitoring in real time. Increased process efficiency – continuous measurement and fast response time. High availability – maintenance-free. Integrated pressure and temperature measurement. Different hazardous area approvals available.

Transmitter features

Complete data transparency – integrated data logger. Excellent price/performance ratio – multivariable measurement (temperature, pressure, concentration). Reliable – insensitive to vibrations. 2-line backlit display with push buttons.

Nominal diameter range

DN 0.7 (1/36")

Wetted materials

Micro channel:

Silicon; Schott Borofloat 33

Manifold

1.4542 (17-4 PH)

Connection:

Swagelok, 1.4404 (316L)

Pressure sensor:

1.4404 (316L)

O-ring: Viton

Process membrane: Ceramics (Al₂O₃)

Measured variables

Density, temperature, pressure, reference density, average molar mass, concentration

Density/Concentration**Max. measurement error**Density (gas): $\pm 0.1 \text{ kg/m}^3$ Temperature: $\pm 0.5^\circ\text{C}$ Pressure: $\pm 0.02 \text{ bar}$

Measuring range0 to 30 kg/m^3 (0 to 0.03 g/cm^3 , 0 to 0.03 SGU)

Max. process pressure20 bar (290 psi)

Medium temperature range -20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$)

Ambient temperature range -20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$)

Transmitter housing materialPowder-coated aluminium

Degree of protectionStandard: IP65/67

Display/Operation

2-line backlit display with push buttons

Configuration via local display and operating tools possible

USB or RS232 interface

Outputs

2 outputs:

4-20 mA (passive)

InputsNone

Power supplyDC 8 to 28 V

Density/Concentration

Hazardous area approvals

ATEX, IECEx, UL C/US Cl. I

More information www.de.endress.com/DCEB