

# NorthDome®



## GAS DENSITY METER

Northdome® sensor is a unique transmitter that measures in real-time gas density and temperature. With its small footprint and stainless steel construction, Northdome® is ideal for OEM applications such as being embedded into gas analytical instruments or gas metering systems. Its approved design for use in hazardous areas and its compactness give the Northdome the assets to bring gas density and temperature monitoring into a wide range of applications.

The fast response time and high repeatability provided by the patented Mesoscale® design offer a unique opportunity to stay close to composition changes whether in laboratory or process conditions. Installed in a tank or through tubing, its “plug and play” capability leads to easy on site deployment which contributes to simplify and provide safe systems.

### NORTHDOME® REAL-TIME OUTPUTS



DENSITY



TEMPERATURE

- ▶ Combined with a pressure sensor, Northdome® calculates molar mass, specific gravity of standard gas, CH<sub>4</sub> or CO<sub>2</sub> concentration of biogas.

### NORTHDOME® BENEFITS



EASY TO INTEGRATE  
COMPACT < 10CM



DURABLE  
WETTED PARTS SS316L



COST EFFECTIVE



SAFETY IN HAZARDOUS AREAS  
ATEX/IECEX (ZONE 0)



### TYPICAL APPLICATIONS



WOBBE INDEX CALCULATION



ENHANCED MONITORING CONTROL



INDUSTRIAL GAS PURITY



BIOGAS MONITORING



# GAS DENSITY METER

## PERFORMANCES

	Standard	High Temperature (on request)
Calibration ranges (other on request)	Density 0.3 ... 3 or 1.5 ... 8 kg/m <sup>3</sup> Temperature -10 ... 70°C	Density 1.5 ... 8 kg/m <sup>3</sup> Temperature +70 ... 130°C
Accuracy	Density +/- 0.015 kg/m <sup>3</sup> Temperature +/- 0.5°C	Density +/- 0.040 kg/m <sup>3</sup> <sup>1</sup> Temperature +/- 0.5°C
Repeatability	Density 0.0025 kg/m <sup>3</sup> Temperature 0.1°C	Density 0.010 kg/m <sup>3</sup> Temperature 0.5°C
Operating conditions	Temperature -40 ... +105°C <sup>2</sup> Pressure 0 ... 20 bars Flow velocity up to 10m/s	T° sensing element -40 ... +150°C T° electronic housing -40 ... 105°C <sup>2</sup> Pressure 0 ... 20 bars
Communication protocols (other on request)	Modbus (RS485), UART (USB) 4-20mA, Frequency	
Power Supply	12-24 VDC	
Certifications  	CE, EMC (EN61326-1:2013 NE21:2011)  ATEX II 1G Ex ia IIC T4 Ga IECEX Ex ia IIC T4 Ga	ATEX II 1G Ex ia IIC T3 Ga IECEX Ex ia IIC T3 Ga

<sup>1</sup> Calibrated with N<sub>2</sub>, other gas on demand  
<sup>2</sup> +95°C in Ex area

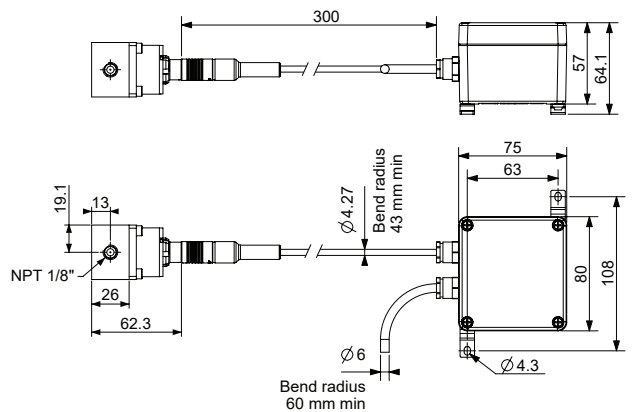
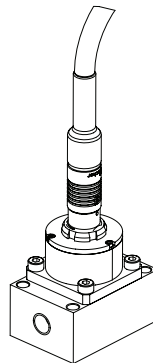
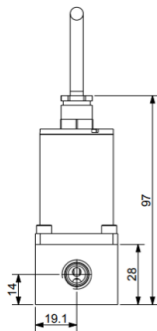
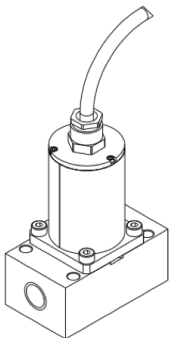
## MECHANICAL INTEGRATION

### Standard

▶ approximate total weight 500g

### High Temperature

▶ approximate total weight 930g



Dimensions in mm