

# gasQS™ static

## Binary Gas Mixtures

Screw in, connect, start measuring

Thermal conductivity is precisely measured using a micro-thermal sensor. For binary gas mixtures (e.g., biogas), the device can derive the percentage of the gases as well as calculate various gas properties such as calorific value and density with high accuracy. Unlike the market standard, this robust, compact, and inexpensive device requires neither any re-adjustment nor reference gas.

The two-wire connection allows easy integration into the control system without further knowledge of bus topologies. The simple screw-in connection causes only minimal interference with the pipe system and does not require an exhaust pipe.

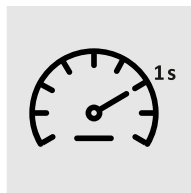
**The instrument works pressure compensated and therefore, independent of the prevailing process pressure.**



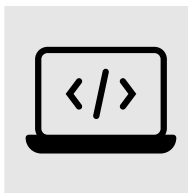
Analog  
4–20 mA



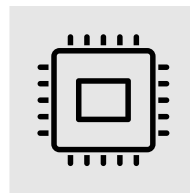
Very sensitive



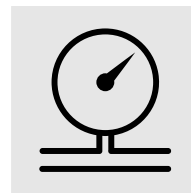
Fast measurement cycles



No complex bus integration



No moving parts



Pressure compensated

## Measurement range

Output value std. <sup>1</sup>		Unit	Range	Accuracy	Repeatability <sup>2</sup>
Percentage of gas	-	mol%	binary gas	±1 %typ.	±0.1 %
Density	$d_n$	kg/m <sup>3</sup>	mixtures <sup>3</sup>	±1% of MV <sup>4</sup>	±0.1 %
Higher Calorific value	$H_s$	MJ/m <sup>3</sup>	e.g., biogas	±1% of MV	±0.1 %

This table shows only a selection of possible output values.

<sup>1</sup> One output value per device, standard conditions 0 °C, 25 °C, 1013.25 mbar absolute, further reference conditions on request

<sup>2</sup> Statistical scatter value with 2 sigma of 48 measuring points

<sup>3</sup> When mixing two gas mixtures of known composition a binary gas mixture is formed.

Information on possible applications with multi-component gas mixtures can be found in the corresponding data sheet or on request.

<sup>4</sup> Measured Value (MV)

## Specifications

Measuring time:	0.1 seconds
Measuring interval:	1 second
Response time:	T90 typically 2 seconds <sup>5</sup>
Meas. range temp. compensated <sup>6</sup> :	-20 ... +80 °C
Operating/storage temperature <sup>6</sup> :	-25 ... +85 °C
Ex device protection type and certificate number:	Ex II 1G Ex ia IIC T4 Ga IECEX SEV 22.0008X SEV 15 ATEX 0191 X

## Media

Media:	dry, neutral gases (10 µm filtering)
Load limit supply line:	+30 bar gauge
Supply line pressure range:	standard:        -0.5 ... +9.0 bar gauge extended:        -0.5 ... +15.0 bar gauge (on request)

## Electrical

Connector:	M12-B, male, 5-pole
Output signal:	Analog 4 – 20mA
Supply voltage:	+12.0 ... +28.0 VDC
Maximum load:	$R \leq (V_s - 12 \text{ VDC})/0.02 \text{ A}$

## Mechanical

Gas connection:	G 3/8 male thread
Dimensions (Diameter x Height) :	51 x 54 mm
Weight:	0.15 kg
Protection class:	IP54

## Accessories (optional)

EX Package	1x SMART transmitter power supply unit 1x 10 m cable PVC assembled, shielded, RAL 5015 blue
Tee piece	Fitting optimised for fast measurements, G1/4 – G3/8 – G1/4

<sup>5</sup> Depending on distance between device and gas line

<sup>6</sup> Medium and ambient temperature