

gasQS™ static Datasheet Binary Gas Mixtures

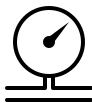


Analogue
4 – 20 mA

Thermal conductivity is precisely identified using a microthermal sensor. For binary gas mixtures (e.g., biogas), it 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 systems. 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 completely independent of the prevailing process pressure.



Pressure compensated



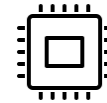
Very Sensitive



Fast measurements



no complex bus integration



No moving parts

Specifications

| | | | |
|------------------------------|--|--------------|------------------------------|
| Measuring range: | binary gas mixtures ¹ , e.g. biogas | | |
| Accuracy: | Percentage of gas | <i>mol %</i> | ± 1 % typ. |
| | Calorific value | $H_{s,n}$ | ± 1 % of measured value (MV) |
| | Relative density | d_n | ± 1 % of MV |
| Repeatability ² : | Percentage of gas | <i>mol %</i> | ± 0.1 % |
| | Calorific value | $H_{s,n}$ | ± 0.1 % |
| | Relative density | d_n | ± 0.1 % |

¹When 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
²Statistical scattering value with 2 sigma of 48 measuring points

Specifications

| | |
|--------------------------------|---|
| Measuring time: | 0.1 second |
| Measuring interval: | 1 second |
| Reaction time: | T90 within approximately 2 s ³ |
| Operating/storage temperature: | - 20 bis + 80 °C ⁴ |
| ATEX Certificate: | Ex II 1G Ex ia IIC T4 Ga (SEV 15 ATEX 0191 X) |

Medium

| | |
|--|--|
| Media: | Dry, neutral gas (10 µm filtering) |
| Operating pressure: | Standard: - 0.5 ... + 9 bar relative / 0.5 ... 10 bar absolute Extended: ⁵ - 0.5 ... + 15 bar relative / 0.5 ... 16 bar absolute |
| Permissible overload / burst pressure: | + 19 bar relative / 20 bar absolute |

Electrical

| | |
|--------------------------------|---|
| Connector: | Plug straight M12, 5 Pol, B-coded |
| Output signal: | 4 – 20 mA |
| Supply Voltage (Power Supply): | +12 bis +28 V _{DC} |
| Maximum load: | $R \leq \frac{V_{supply} - 12.0 V}{0.02 A} [Ohm]$ |

Mechanical

| | |
|-----------------------|-----------------------|
| Gas connections: | G 3/8 external thread |
| Dimensions (d x h): | 51 x 54 mm |
| Weight: | 0.15 kg |
| Degree of protection: | IP65 |

optional accessories

| | |
|-------------------|--|
| Cable: | Socket straight M12, 5 pin, B-coded Cable PVC (5x0.5) shielded, RAL 5015 (blue) |
| Isolated barrier: | KFD2-STC5-Ex1 |

³Strongly depending on the distance between sensor and gas line

⁴Media and ambient temperature

⁵for an additional charge