gasQS™ flonic V1

Datasheet

Microelectromechanical gas quality measurement device. Based on its CMOS chip microthermal flow sensor in combination with a sonic nozzle and an on/off valve, thermal conductivity, heat capacity and specific gravity of the gas is measured. From these values, e.g. calorific value, methane number or Wobbe Index are correlated.

Compared to process gas chromatographs, the standard analytical tool to determine gas compositions, this stand-alone device needs no recalibration, no reference gas, is robust, compact in size and inexpensive. It is ideally suited for application fields like natural gas vehicles (NGVs), industrial burners or co-generation plants.

Specifications

Measuring range:	Hs [1] = 28.0 … 50.0 MJ/m³	
Accuracy:	Calorific value [1] (Hs, n)	≤ ± 1 MJ/m³
	Relative density [1]	≤ ± 0.01
	Wobbe Index [1] (Ws, n)	< ± 1.5 MJ/m³
	Methane number [1]	± 3 absolute
Repeatability [2]:	± 0.5 MJ/m³ / ± 0.003 / ± 0.5 MJ/m³ / ± 2 absolute	
Measuring time:	≥ 30 seconds	
Measuring interval:	adjustable (≥ 60 seconds)	
Reaction time:	T90 within 3 measuring intervals	
Gas consumption:	ca. 0.1 l_n/measuring interval	
Temperature range:	-10 … +55 °C [3]	
Media:	dry, neutral gases (10-µm-filtering)	
Inlet pressure range:	5 bar bis 10 bar absolute	
Permissible overload / burst pressure:	10 bar absolute	
Counterpressure on outlet side:	≤ 1.4 bar absolute	
Gas connections:	G1/8 internal threads	
Weight:	0.7 kg	
Dimensions (l x b x h):	100 x 60 x 70 mm	

[1] Reference condition 25 °C, 0 °C, 1013.25 mbar
[2] Statistical scattering value with 2 sigma of 48 measuring points
[3] Extended temperature range on request

Output signal:	Proprietary CAN protocol [4] [5]
Supply voltage:	+10 … +30 Vdc
Power requirement:	< 2.4 W

[4] Factory settings CAN: 500 kbps, Arbitration ID: 29-bit, Slave address: 0x01
[5] Factory settings units and reference conditions: MJ/m_n^3, kg/m_n3, 25 °C, 0 °C, 1013.25 mbar