

gasQS™ static – Ammonia Cracking

Measurement of hydrogen and ammonia - Screw in, connect, start measuring

The gasQS™ static determines the thermal conductivity of gas mixtures precisely and continuously using an integrated micro-thermal sensor. For the efficient transport of energy via ammonia, the gasQS™ static provides precise monitoring of the cracking process and analyzes the resulting H₂/N₂ mixture in real-time.

In contrast to conventional measurement systems, the device is compact, robust, and maintenance-free – it requires no calibration with reference gases and contains no moving parts. The fast T90 time in the second range is crucial for monitoring cracking efficiency and protecting downstream components such as fuel cells.

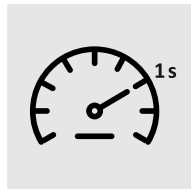
Pressure-compensated measurement and the simple two-wire connection allow for rapid integration into hydrogen infrastructures without complex gateways. The gasQS static is the smart, durable solution for stable process control in the sustainable hydrogen economy.



Analog
4–20 mA



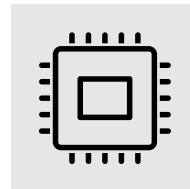
Very sensitive



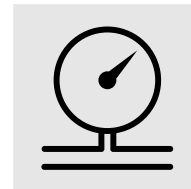
Fast measurement cycles



No complex bus integration



No moving parts



Pressure compensated

Measurement range

Output value std. ¹		Range [mol%]	Accuracy ²	Repeatability ³
H2 measurement				
Percentage of gas	H ₂ in NH ₃ /N ₂	0 – 75	±0.2%	±0.01%
Ammonia measurement				
Percentage of gas	NH ₃ in Cracker-gas (H ₂ /N ₂)	0 – 100	±0.2%	±0.02%

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

² %-values refer to the measured value

³ Statistical scatter value with 2 sigma of moving average with 8 values

Specifications

Measuring time:	0.1 seconds
Measuring interval:	1 second
Response time:	T90 typically 2 seconds ⁴
Meas. range temp. compensated ⁵ :	-20 ... +65 °C
Operating/storage temperature:	-25 ... +80 °C
Maximum installation height:	3,760 meters above sea level
Ex device protection type and certificate number:	Ⓔ II 1 G 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:	+16.0 ... +28.0 VDC
Maximum load:	$R < (V_s - 16 \text{ VDC})/0.02 \text{ A}$

Mechanical

Gas connection:	G 3/8 male thread
Dimensions (Diameter x Height) :	51 x 54 mm
Weight:	0.40 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

⁴ Depending on distance between device and gas line

⁵ Medium and ambient temperature