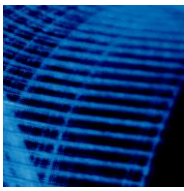
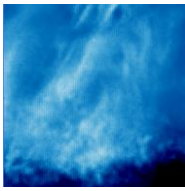
H_2-Semicon®-Sensor-System pi - Industriekopf

High selective gas sensor system for Hydrogen (H_2)

- High selective measurement of Hydrogen concentrations from 0 up to 10 % (optional up to 100%)
- Patented active diversified-redundant gas sensor system (selective MOX gas sensor + thermal conductivity detector) with high sensitivity, selectivity, stability and safety (Semicon®-Principle [1])
- Integrated safety related functions (e.g. errors will be signaled during the measurement procedure)
- Certifiable according to SIL IEC 61508 and EN 50194
- Customizing at works on demand e.g.:
  - Standard: Variants for normal pressure / ambient air, optional with sensor for pressure compensation for higher pressure ranges up to 30 bar
  - Standard: gas port G1/4 / optional variant for diffusion
  - Interface(s) RS232, CAN-Bus or analogue output, optional up to 3 interfaces;
    Connection cable - Preassembled at works, length 1m without connection plug (other variants on request)
  - Further customizations on request
- Fields of application e.g.:
  - Leakage detection in fuel cell systems (fuel lines, stack or membrane)
  - Monitoring of relevant chemical process equipment and facility systems
  - Portable and stationary gas leak detection systems





H_2-Semicon®-Sensor-System pi - Industriekopf
- Variant for normal pressure –
(Patent: EP000001621882B1 [2])

Selected technical data

Measuring range	0 ppm up to 10 % H_2, optional up to 100 %
Measurement deviation	± 10 % (of full scale)
Response time at 5.000 ppm (T_{60})	≤ 1 s
Operating temperature range (sensor head)	0 °C up to +50 °C
Humidity resistance	0% rel.H. up to condensing
Use pressure	
Standard variant	Normal pressure / ambient air 0.5 bar - 1.5 bar
Variant with integrated pressure sensor	0.5 bar – 30 bar
Necessary minimum O_2-concentration in the medium to be measured	≥ 1 %
Gas supply	Gas port G1/4, optional diffusion

Possible Interfaces	
analogue	1 x 0 V up to 10 V
digital	1 x RS232 / 1 x CAN-Bus
Power supply	12 V DC, current consumption appr. 200 mA
Dimensions sensor head (Ø x length)	
without connection cable	appr.. Ø 33 mm x 140 mm
Length connection cable (pre-assembled at works, without connection plug)	appr. 1000 mm
Net weight	
without pressure sensor	appr.. 300 g
with pressure sensor	appr. 430 g
Conformity 2011/65/EU: Restriction of the use of Hazardous Substances Directive (RoHS)	

Any contamination of the sensor must be avoided. The application, transport and storage environment has to be free of any contamination, particularly protected against chemical substances, e.g. silicones.
In particular directly contact with substances containing, silicones, sulfurous substances or non-desorbing components or contaminations (e.g. smoke, fumes, oils, greases or evaporating liquids) may cause damaging the sensor or to changes in the sensor resistance and/or in the sensor characteristics.

Remark: Sensor system not intrinsically safe.

1) *Semicon® is a registrated trademark of UST Umweltsensortechnik GmbH, Dieselstr. 2 und 4, 99331 Geratal OT Geschwenda, Germany*
2) *Patent: EP000001621882B1 - Verfahren zur Erfassung brennbarer Gase, insbesondere zur Erfassung von Wasserstoff / Method for detecting combustible gases, in particular hydrogen*

Made in Germany

UST Umweltsensortechnik GmbH, Dieselstr. 2 und 4, 99331 Geratal OT Geschwenda, Germany
Tel. +49 36205 713-0 Fax +49 36205 713-10
info@umweltsensortechnik.de www.umweltsensortechnik.de