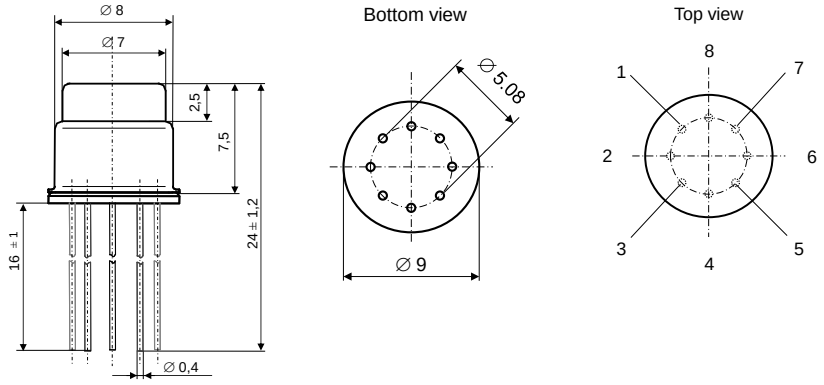
Preliminary technical data

Gas sensor	***DGS:***	Array gas sensor
Type of sensor	***3A4P:***	UST Triplesensor®-Element with following gas sensitive layers: • 2000C2+: detection of easily oxidable gases CO, …; • 3000C2+: detection of heavily oxidable gases CH_4, C_3H_8, …; • 5000C2+: detection of reducible gases NO_2, O_3
Chip		Size = (B x L: 2.0 x 2.3) mm^2
Heater resistance at 0 °C	***10***	R_{H0} = (10.0 ± 0.5) Ω
Type of sensor	***6430***	
	6:	Sensor for the detection of H_2, with lowest cross sensitivity to CH_4, CO und C_2H_5OH
Chip	***4***:	Size = (B x L: 2.0 x 2.3) mm^2
Heater resistance at 0 °C	***3***:	R_{H0} = (10.0 ± 0.5) Ω
Class of accuracy	***0***:	R_{S0} = ± 75 %, R_S/R_{S0} = ± 30 %
Housing	***2T***:	Sensor in an 8-Pin-housing with a stainless steel cap (2T) - delivery form

Figure 1: Opened sensor element without 2T-cap (2 gas sensor chips on an 8-Pin-TO39-socket) – similar to figure

Dimensions



Pin assignment

Pin 1: R_{SP3} 3A4P	Pin 5: R_H 3A4P
Pin 2: R_S 6430	Pin 6: R_H 6430
Pin 3: R_H 3A4P (GND)	Pin 7: R_{SP2} 3A4P
Pin 4: R_S 6430	Pin 8: R_H 6430

(R_S… resistance sensitive layer(s), R_H… heater resistance, R_{SP2}/R_{SP3}… resistances on Pin2 or Pin3 of 3A4P sensor element)

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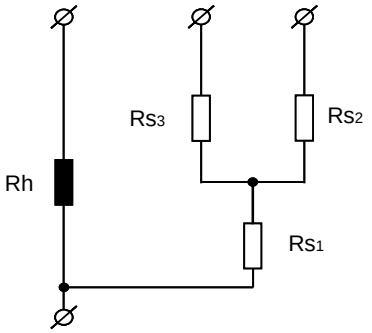
Preliminary technical data

Typical sensor characteristics to selected test gases

3A4P10		
Operating parameters	Heater temperature T_H = (320± 15) °C Power rate $P_H \approx$ 450mW	
	R_{0S1} = (50… 3500) kΩ (2000C2+), R_{0S2} = (30… 3000) kΩ (5000C2+), R_{0S3} = (30… 3500) kΩ (3000C2+)	

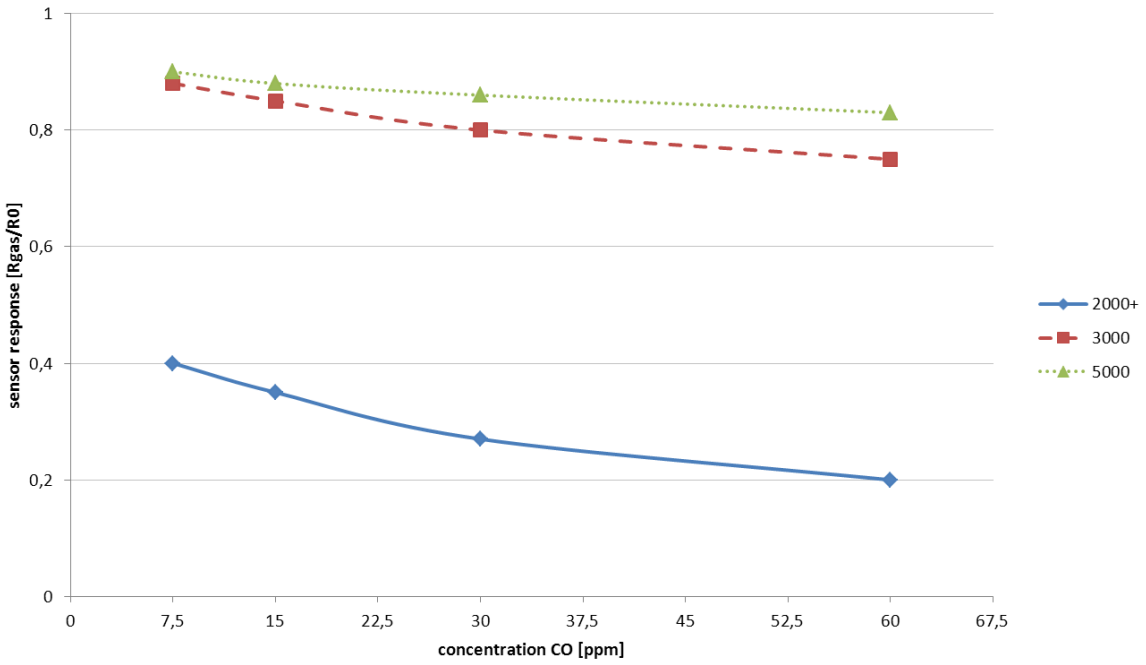


Figure 2: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to CO

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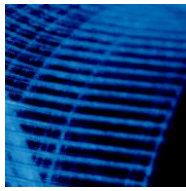
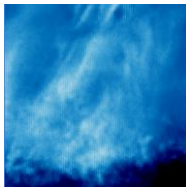


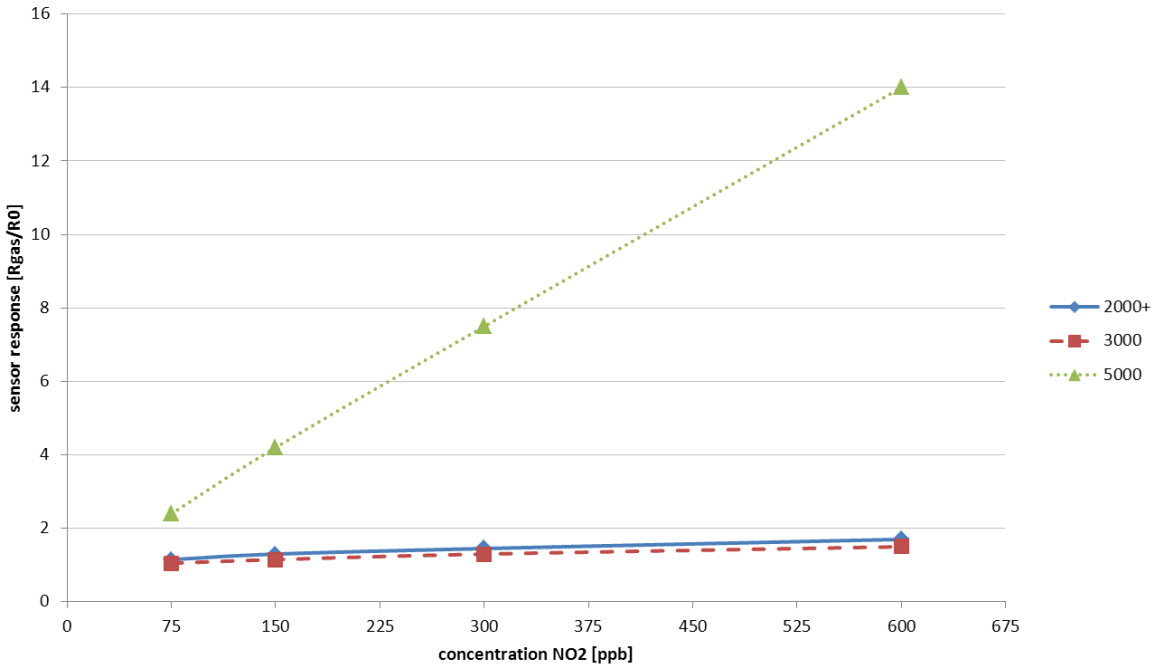

Figure 3: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to NO_2

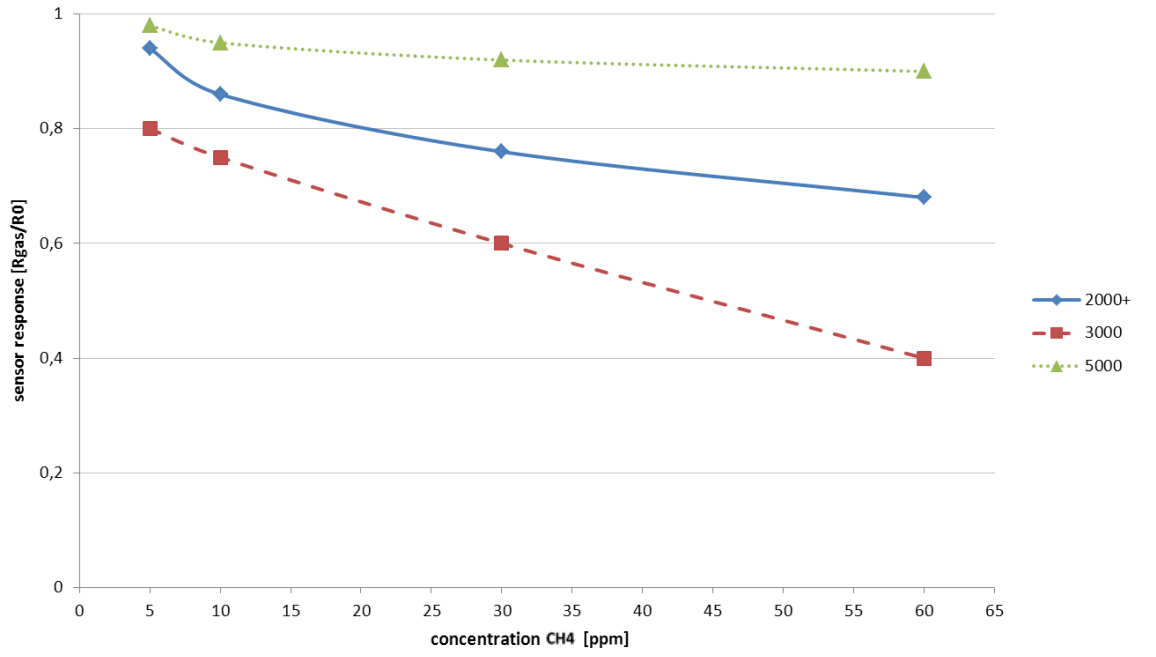

Figure 4: Typical sensor response of the 3 sensitive layers of the 3A4P-Gas sensor element on exposure to CH_4

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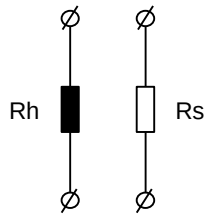
6430		
Operating parameters **Sensor parameters**	Temperature T_H = (450 ± 15) °C Power rate $P_H \approx$ 450mW Basic resistance R_{S0} = (5… 50) kΩ	

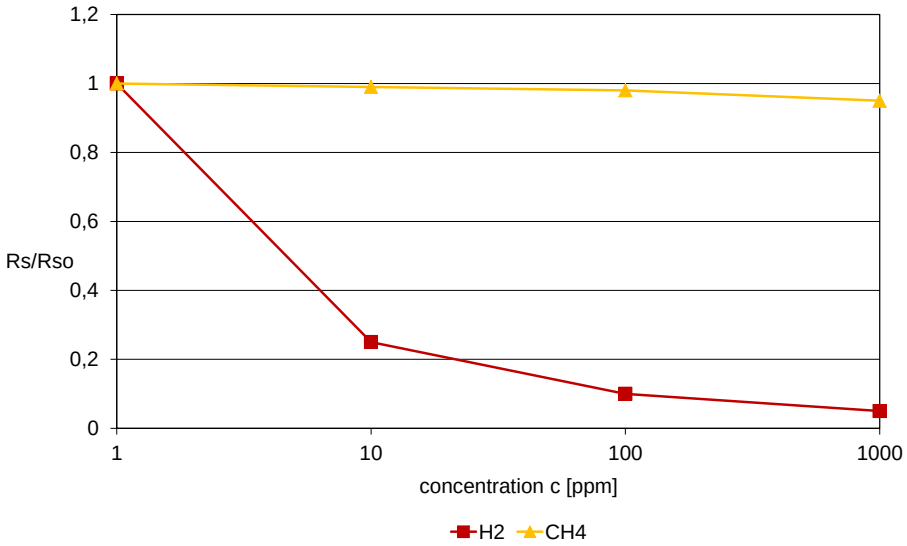


Figure 5: Sensitivity characteristics on exposure to H_2 and CH_4

Allowable storage and transportation temperature	-25 °C … +70 °C
Allowable storage and transportation humidity	20 % … 80 % relative humidity
Allowable storage conditions	Storage environment free of any contaminations, particularly protected against chemical substances, such as Silicone etc.
Net weight	ca. 0,35 g
Conformity	2011/65/EU: Restriction of the use of Hazardous Substances Directive (RoHS)

Important remarks:

Improper transport, storage and application may cause damaging the gas sensor. Silicone containing, sulphurous substances or non-desorbing an-organic contaminations may cause damaging the sensor or changes in the sensor resistance and/or changes in the sensor characteristics.

The mentioned values and data are recommended values which include the fault tolerances of measuring under diffusion conditions.

For sensor control, pre-processing of the sensor signals, storage of the calibration data and data communication we deliver an specific electronic module.

Please ask us for customized solutions.

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