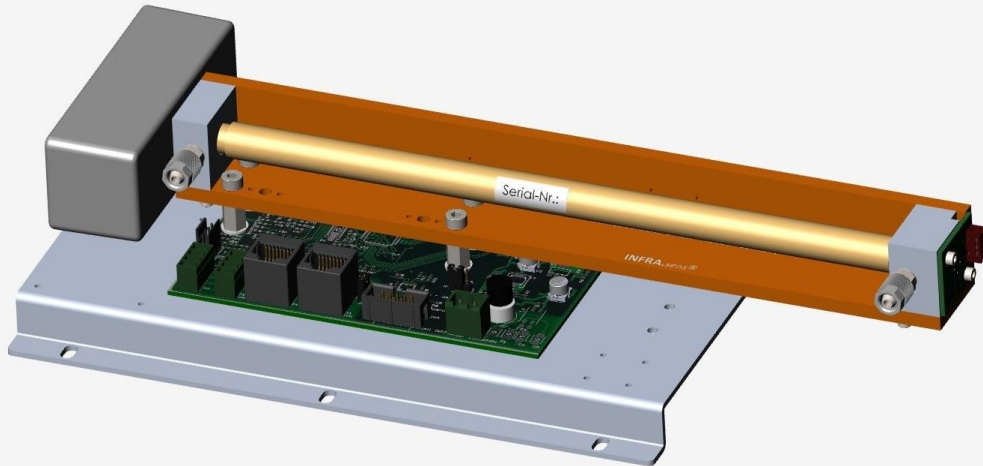


CO / CO₂ / C_nH_m / N₂O



INFRA.sens® AK250

Applications

- > Industrial gas analyzer
- > Environmental monitoring
- > Process control
- > Instrumentation

Features & Benefits

- > High dynamic range
- > Rugged sensor design
- > Gas tight O-ring sealing
- > Low power consumption <1W @ 24V
- > Different interfaces (RS232, CANbus)

Description

The gas analysis based on the NDIR technique is an established method to determine the concentrations in complex gas mixtures. The **INFRA.sens®** module uses novel optical components for optimum analysis results. The individual modules are sealed by means of O-ring connections. The gold coated sample cell length is set to 250mm.

Options

- > O2.sens (Oxygen sensor)
- > P.sens (Pressure sensor)
- > HUMI.sens® (Humidity sensor)
- > Thermobox
- > Analogboard (0-10V)

Accessories

- > MARS Tool (Control and data logging)



For more and most recent information please have a look on our website at www.witec-sensorik.de/en/

INFRA.sens® AK250G

CO / CO₂ / C_nH_m / N₂O

	gas channel 1*	gas channel 2*	gas channel 3*	gas channel 4*	Option**		
Single Gas Module	CO / CO ₂ / C _n H _m / CH ₄ / N ₂ O				O ₂	P	H
Dual Gas Module	CO		CO ₂ / C _n H _m / CH ₄ / N ₂ O		O ₂	P	H
		CO ₂ ***	CO ₂ / C _n H _m / CH ₄ / N ₂ O		O ₂	P	H
Triple Gas Module	CO	CO ₂ ***	CO ₂ / C _n H _m / CH ₄ / N ₂ O		O ₂	P	H

* one gas per column selectable

** P = pressure sensor, H = humidity sensor

*** only high concentrations with ✓ for low concentrations on request, possibly with longer delivery times

List of measurement ranges

Measuring range*	CO	CO ₂	CH ₄	C _n H _m	N ₂ O
100Vol.%					
50Vol.%					
30Vol.%					
20Vol.%		✓			
10Vol.%		✓			
5Vol.%	✓	✓			
1Vol.%	✓	✓	✓		
5000ppm	✓	✓	(✓)	✓	
2000ppm	✓	✓	(✓)	✓	
1000ppm	✓	✓	(✓)	(✓)	✓
500ppm	✓	✓	(✓)	(✓)	✓
100ppm		✓			
50ppm					
10ppm					

* Full scale value (F.S.)

For other measuring ranges please refer to our further datasheets

(✓) on request, possibly longer delivery times



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INFRA.sens® AK250G

CO / CO₂ / C_nH_m / N₂O

General features	
Measurement principle	NDIR
Measurement range	see list of measurement ranges
Gas flow	0.1 – 1.5 l/min
Dimensions	315mm x 120mm x 75mm
Weight	approx. 670g
Tube connector	4/6mm tube
Lifetime of IR radiation source	> 40 000h
Measuring response ¹	
Warm-up time	1 min (initial), <10 min ²
Response time(t ₉₀)	1.5s – 15s ³
Detection limit (3·σ)	< 0.5% F.S. ⁴
Linearity error	< ± 1% F.S.
Repeatability	± 0.5% F.S.
Long term stability (zero)	< ± 2% F.S./week
Long term stability (span)	< ± 2% F.S./month
Temp. Influence zero	< 1% F.S./10K
Temp. Influence span	< 2% F.S./10K ⁵
Cross sensitivity	< 2% F.S. ⁶
Pressure influence	< 1.5%/10hPa of reading ⁷
Electrical inputs and outputs	
Supply voltage	24 (15 – 30) VDC
Average power consumption	< 1W
Digital output signal	RS 232 (ASCII) or CANbus
Climatic conditions	
Operating temperature	15 – 45 °C ⁸
Storage temperature	-20 – 60 °C
Air pressure	800 – 1200 hPa (mbar)
Ambient humidity	0 – 95% rel. humidity (not condensing)

F.S. full scale

¹ related to P_a = 1020hPa ; T_a = 25°C // flow = 1l/min

² full specification, demands to environmental conditions

³ depends on digital filter settings

⁴ at zero point

⁵ without span temperature compensation

⁶ to each calibrated gas channel

⁷ without pressure compensation

⁸ stable climatic conditions recommended



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