Precise gas analysis for DLCO

CO, CH_4 and CO_2 simultaneously in one compact NDIR module – the INFRA.sens® AK100G compact for classical DLCO systems per ERS/ATS 2017.

< 650 ms
Response time t_{90}
measured typ. 0.3 s (CO, CH_4)

< 2 ppm
Detection limit CO
3σ, typical measured (datasheet < 10 ppm)

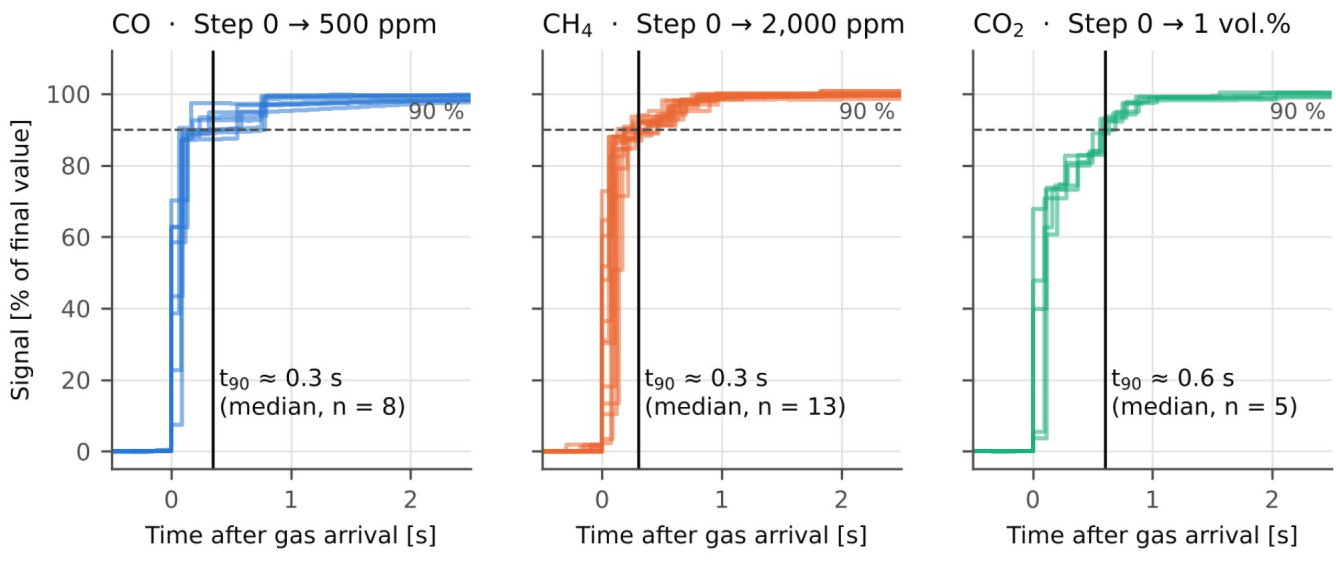
< 2 ppm
Detection limit CH_4
3σ, typical measured (datasheet < 10 ppm)

3 gases
in one module
CO · CH_4 · CO_2, dual-beam NDIR with reference

- **No moving parts:** the IR source is modulated electrically, so there is virtually no wear – unlike conventional measuring systems.

Fast gas exchange, reproducible

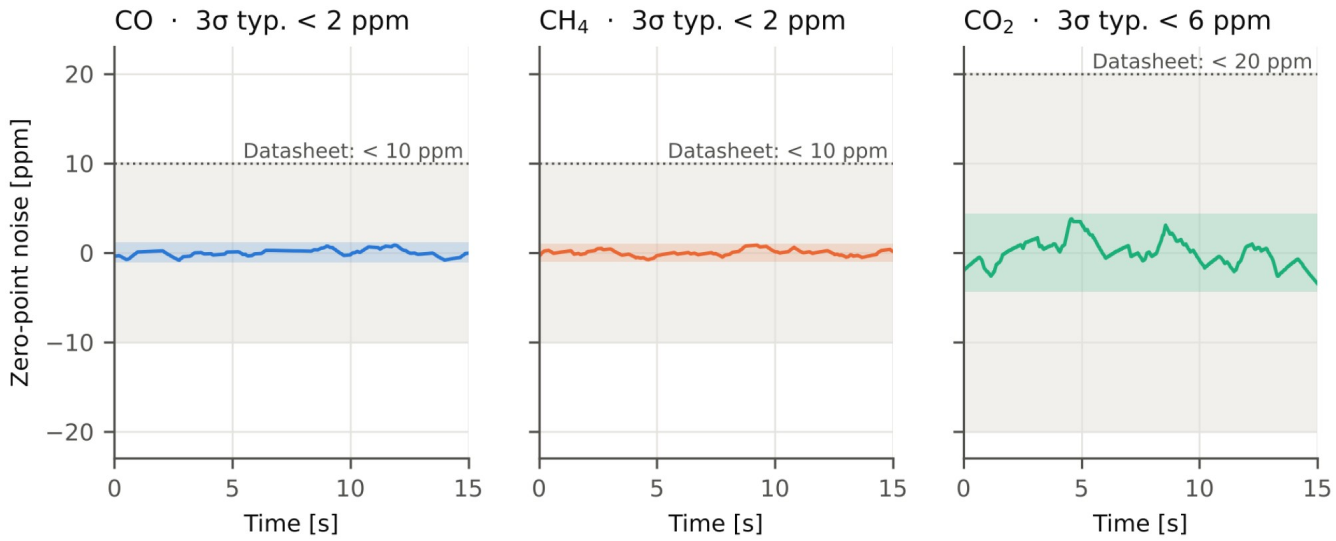
All concentration steps of two units, overlaid.



Steps 0 → 500 ppm CO, 0 → 2,000 ppm CH_4, 0 → 1 vol.% CO_2 at 2 l/min; t_{90} from gas arrival, median over n steps.

Detection limit far below specification

Zero gas: coloured band = ±3σ, grey band = datasheet limit.



Made for DLCO systems

- **No moving parts:** electrically modulated IR source, virtually no wear, > 40,000 h lifetime
- Range 0–3,500 ppm CO and CH_4 matches DLCO test gas (approx. 0.3 % CO / CH_4)
- CO_2 channel for P_ACO_2 adjustment
- Dual-beam NDIR with 3 wavelengths plus reference
- < 1.5 W, 15–30 VDC, RS232 or CANbus

Specifications

	CO	CH_4	CO_2
Measuring range	0–3,500 ppm	0–3,500 ppm	0–10 vol.%
Detection limit 3σ	< 10 ppm	< 10 ppm	< 20 ppm
measured, typ.	**< 2 ppm**	**< 2 ppm**	**< 6 ppm**
Linearity error	< 5 ppm	< 5 ppm	< 50 ppm
Response time t_{90}			< 650 ms
Size / weight	225 × 120 × 75 mm, approx. 630 g		

Compared with ERS/ATS 2017 – analyser requirements

Requirement	Standard (Table 1)	INFRA.sens, measured
Nonlinearity	≤ ±1 % FS	**≤ 0.3 % FS**
Accuracy	±1 % FS	**< 1 % FS**
Drift CO	≤ 10 ppm / 30 s	**< 5 ppm / 30 s**
Drift tracer gas CH_4	≤ 0.5 % FS / 30 s	**< 0.4 % FS / 30 s**
CO_2 signal for P_ACO_2 adjustment	optional	**integrated**

Test conditions: 2 units, CAN output 10 Hz, adaptive digital filter, test gas 2 l/min; FS = full scale. Detection limit = 3σ, median of all zero phases. Subject to technical change.

Talk to us about your OEM integration

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Application questionnaire