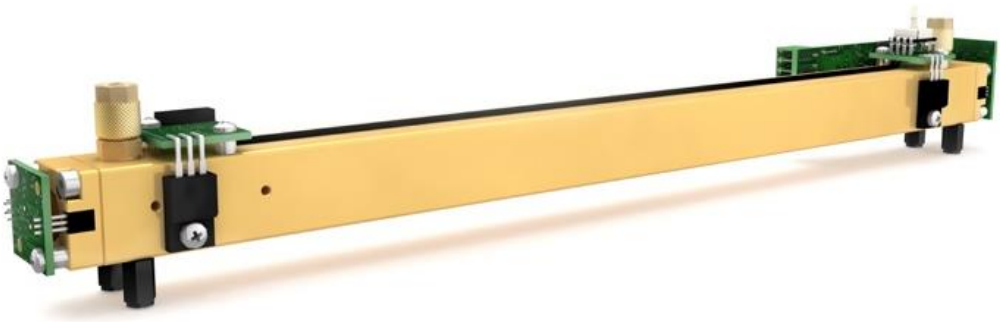
smartGAS.

MADE IN GERMANY

SILAREX

NDIR Multi-Gas Sensor
CO_2 100 ppm // CO_2 1000 ppm // CO_2 10000 ppm
smartGAS item number: SX-300011-00000

- **3 active measurement channels**
- **Ready to use calibrated**
- **On board cross compensation**
- **On board pressure compensation**
- **Modbus ASCII/RTU, autobaud, autoframe**
- **Status indicated by LED**



Application Examples
Emission monitoring CEMS
Biogas
Process measurement
Fruit ripening
High voltage

Available as
2-Channel
3-Channel

Accessories
Insulation housing
Gas cooler
Particle filter
Gas pump
Mounting equipment

Available design in support
Mechanical Installation
Data communication
Gas pre-treatment

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SILAREX I CO_2 // 3-channel I SX-300011-00000

General featurs		Channel 1:	Channel 2:	Channel 3:
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength			
Target gas:		CO_2	CO_2	CO_2
Measurement range:	0 … Full Scale (FS)	FS = 100 ppm	FS = 1000 ppm	FS = 10000 ppm
Gas supply:	by flow (nearly atmospheric pressure)			
Flow rate:	0.1 ... 1.0 l / min			
Mounting dimensions:	336 mm x 30 mm x 50 mm (L x W x H)			
Warm-up time:	< 2 minutes (start up time) < 30 minutes (full specification)			

Measuring response*				
Response time (t_{90}) @ 0.7 l / min:	< 4 s (fast), < 8 s (medium), < 60 s (slow)			
Digital resolution:		0.01 ppm	0.1 ppm	1 ppm
Detection limit (3 σ) max.:	in fast / medium / slow mode:	0.60 ppm/ 0.30 ppm / 0.15 ppm	1.60 ppm / 0.80 ppm / 0.40 ppm	30 ppm / 15 ppm / 8.0 ppm
Repeatability:		≤ ± 0.4 ppm	≤ ± 3.5 ppm	≤ ± 35 ppm
Linearity error (straight line deviation):		≤ ± 2 ppm	≤ ± 20 ppm	≤ ± 100 ppm
Long term stability (zero):	after 1000 h operating time	≤ ± 1.85 ppm	≤ ± 6 ppm	≤ ± 113 ppm
Long term stability (span):	after 1000 h operating time	≤ ± 0.07 ppm	≤ ± 0.7 ppm	≤ ± 7 ppm

Influence of T, P, flow rate, other*				
Temp. dependence (zero):	with thermal isolation, heater on	n.a.	n.a.	n.a.
Temp. dependence (span):	with thermal isolation, heater on	n.a.	n.a.	n.a.
Pressure dependence:	pressure compensated, residual error in % of actual reading / hPa	≤ ± 0.02	≤ ± 0.02	≤ ± 0.02
Flow rate dependence per 0.1 l / min:		≤ ± 0.07 ppm	≤ ± 0.7 ppm	≤ ± 7 ppm

Electrical inputs and outputs	
Supply voltage:	24 V DC ± 10 %
Average power consumption	< 6 W (while heater on) // < 1 W (at stabilized temperature)
Inrush current:	< 400 mA
Digital output signal	Modbus ASCII / RTU via RS485, autobaud, autoframe
Calibration	Zero and Span via Modbus ASCII / RTU

Climatic conditions	
Sensor heating temperature	42 °C
Operating ambient temperature:	appr. + 10 … + 40 °C (thermal isolation required)
Storage temperature:	-20 °C … + 60 °C
Air pressure:	800 … 1150 hPa
Ambient humidity:	0 … 95 % rel. H. (not condensing)

* Typical values related to 1013 hPa, Ta = 22 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas. Stated values exclude calibration gas tolerance.