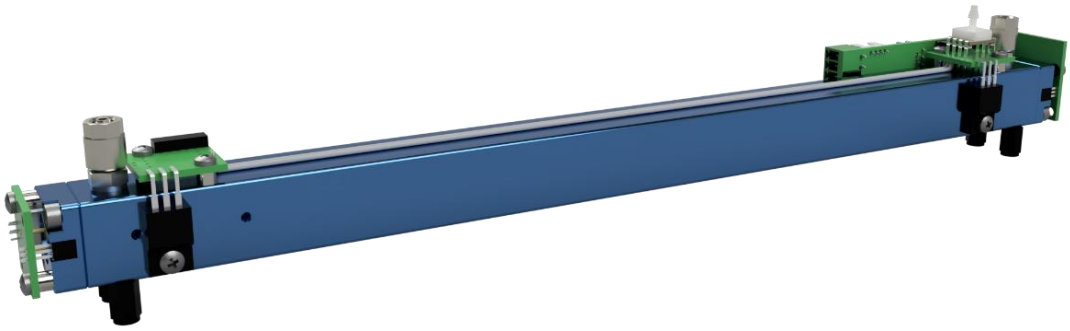
smartGAS.

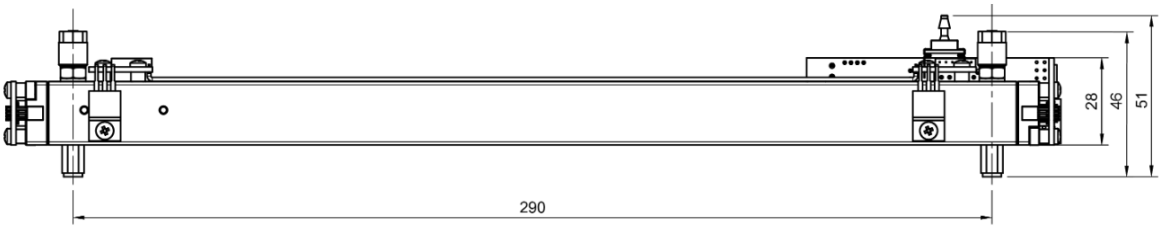
MADE IN GERMANY

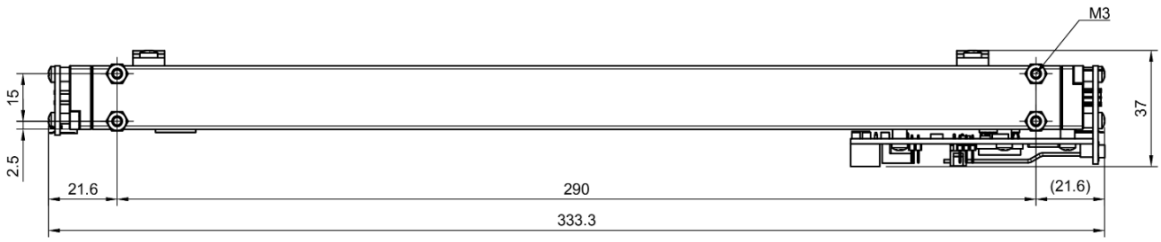
SILAREX

NDIR Multi-Gas Sensor for CEMS
CO_2 20 Vol.-% // CO 5 Vol.-%
smartGAS item number: SX-200012-00000

- **CEMS Dual Gas NDIR sensor**
- **2 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

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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DS_SX-200012-00000_CO2_CO
Edition 03_09/2021

SILAREX I CO_2 // CO I SX-200012-00000

General features		Channel 1:	Channel 2:
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength		
Target gas:		CO_2	CO
Measurement range:	0 … Full Scale (FS)	FS = 20 Vol.-%	FS = 5 Vol.-%
Gas supply:	by flow (nearly atmospheric pressure)		
Flow rate:	0.1 ... 1.0 l / min		
Mounting dimensions:	336 mm x 40 mm x 55 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 Vol.-%	1 ppm
Detection limit (3 σ) max.:	in fast / medium / slow mode:	0.04 Vol.-% / 0.02 Vol.-% / 0.01 Vol.-%	0.006 Vol.-% / 0.003 Vol.-% / 0.002 Vol.-%"
Repeatability:		≤ ± 0.07 Vol.-%	≤ ± 0.51 Vol.-%
Linearity error (straight line deviation):		≤ ± 0.2 Vol.-%	≤ ± 0.05 Vol.-%
Long term stability (zero):	after 1000 h operating time	≤ ± 0.05 Vol.-%	≤ ± 0.02 Vol.-%
Long term stability (span):	after 1000 h operating time	≤ ± 0.20 Vol.-%	≤ ± 0.10 Vol.-%

Influence of T, P, flow rate, other*			
Temp. dependence (zero):	with thermal isolation, heater on	n.a.	n.a.
Temp. dependence (span):	with thermal isolation, heater on	n.a.	n.a.
Pressure dependence:	pressure compensated, residual error in % of actual reading / hPa	≤ ± 0.02	≤ ± 0.02
Flow rate dependence per 0.1 l / min:		≤ ± 0.02 Vol.-%	≤ ± 0.005 Vol.-%
Cross sensitivity (zero) other gases:	"@ 20 Vol.-% CO2 (compensated for 42 °C): @ 5 Vol.-% CO (compensated for 42 °C):"	"- ≤ ± 0.2 Vol.-%"	"≤ ± 0.05 Vol.-% -"

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.

For more information, please visit www.smartgas.eu or contact us at sales@smartgas.eu
Please consult smartGAS sales for parts specified with other temperature and measurement ranges. At first initiation and depending on application and ambient conditions recalibration is recommended. Recurring cycles of recalibration are recommended.