

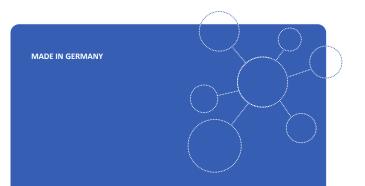
Electro Optical Components, Inc.

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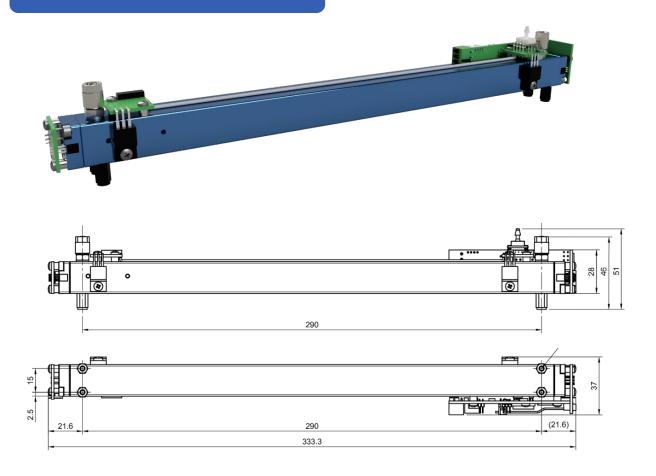
smartGAS.



SILAREX

NDIR Multi-Gas Sensor for TOC measurement CO₂ 100 ppm // CO₂ 1000 ppm // CO₂ 10000 ppm smartGAS item number: SX-300011-00000

- 3 active measurement channels
- Ready to use calibrated
- Perfect solution for TOC (total organic carbon)
- On board pressure compensation
- Modbus ASCII/RTU, autobaud, autoframe
- Status indicated by LED



Application Examples

TOC analysing Process measurement

Available as 3-Channel

Accessories
Insulation housing
Gas cooler
Particle filter
Gas pump
Mounting equipment

Available design in support

Mechanical Installation Data communication Gas pre-treatment



SILAREX | CO2 // 3-channel | SX-300011-00000

General features		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 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 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):		≤ ± 2.0 ppm	≤ ± 20 ppm	≤ ± 100 ppm
Long term stability (zero):	after 1000 h operating time	≤ ± 1.85 ppm	≤ ± 6.0 ppm	≤ ± 113 ppm
Long term stability (span):	often 1000 h exercting time	4 L 2 40	1.16	
Long term stability (spair).	after 1000 h operating time	≤ ± 2.40 ppm	≤ ± 16 ppm	≤ ± 461 ppm
Influence of T, P, flow rate, other		≤ ± 2.40 ppm	≤ ± 16 ppm	≤ ± 461 ppm
Influence of T, P, flow rate, other		s ± 2.40 ppm	≤ ± 16 ppm	≤ ± 461 ppm
Influence of T, P, flow rate, other	*			
Influence of T, P, flow rate, other Temp. dependence (zero):	with thermal isolation, heater on	n.a.	n.a.	n.a.
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span):	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in %	n.a.	n.a. n.a.	n.a. n.a.
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min:	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in %	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence:	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in %	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.1 l / min: Electrical inputs and outputs Supply voltage:	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs Supply voltage: Average power consumption	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current:	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current: Digital output signal Calibration	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA Modbus ASCII / RTU via RS485, autobaud, au	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current: Digital output signal	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA Modbus ASCII / RTU via RS485, autobaud, au	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.1 l / min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current: Digital output signal Calibration Climatic conditions	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA Modbus ASCII / RTU via RS485, autobaud, au Zero and Span via Modbus ASCII / RTU	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.11/ min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current: Digital output signal Calibration Climatic conditions Sensor heating temperature	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA Modbus ASCII / RTU via RS485, autobaud, au Zero and Span via Modbus ASCII / RTU	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02
Influence of T, P, flow rate, other Temp. dependence (zero): Temp. dependence (span): Pressure dependence: Flow rate dependence per 0.1 l / min: Electrical inputs and outputs Supply voltage: Average power consumption Inrush current: Digital output signal Calibration Climatic conditions Sensor heating temperature Operating ambient temperature:	with thermal isolation, heater on with thermal isolation, heater on pressure compensated, residual error in % of actual reading / hPa 24 V DC ± 10 % < 6 W (while heater on) // < 1 W (at stabilize < 400 mA Modbus ASCII / RTU via RS485, autobaud, au Zero and Span via Modbus ASCII / RTU 42 °C appr. + 10 + 40 °C (thermal isolation require	n.a. n.a. ≤ ± 0.02 ≤ ± 0.07 ppm d temperature)	n.a. n.a. ≤±0.02	n.a. n.a. ≤±0.02

^{*} 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.

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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.