



SILAREX – SMART
MULTI-GAS
MEASUREMENT
WITH NDIR SENSORS

Innovative gas sensors

smartGAS.

SILAREX

Optical NDIR multi-gas sensors

Precision and high performance: With the SILAREX platform, smartGAS offers standardized multi-channel solutions

Applications such as emission measurement require the simultaneous analysis of multiple gases like CO₂, NO and SO₂. SILAREX gas sensors have been developed for this application case and enable parallel concentration measurement of up to three measuring gases with one single NDIR gas sensor. The cross-sensitivities of the individual gases are compensated directly inside the SILAREX sensor,

providing the user with fully prepared and corrected measuring values via Modbus ASCII / RTU for further processing. Compared to measuring with three individual sensors, the advantages are obvious: Only one sensor needs to be calibrated and maintained; varying sample preparation, different accuracies or life cycles of the sensors do not need to be considered.

Convenience and safety through combined measurement

smartGAS offers SILAREX multi-channel sensors as well as the required accessories for design-in and operation in different versions as a standard, e.g. for emission monitoring with carbon dioxide up to 20% by volume, nitrogen monoxide up to 2,000 ppm and sulfur dioxide up to 1,000 ppm.

It is also possible to implement two-channel versions for measuring carbon dioxide and carbon monoxide with focus on industrial production plants, cogeneration plants and cement production. The SILAREX concept forms the perfect basis for challenging measuring gas combinations and customized sensor developments.

Purely physical measuring method

On-board cross-compensation

High selectivity and measuring accuracy

Long-term stability and very low drift

Low detection limits with short response times

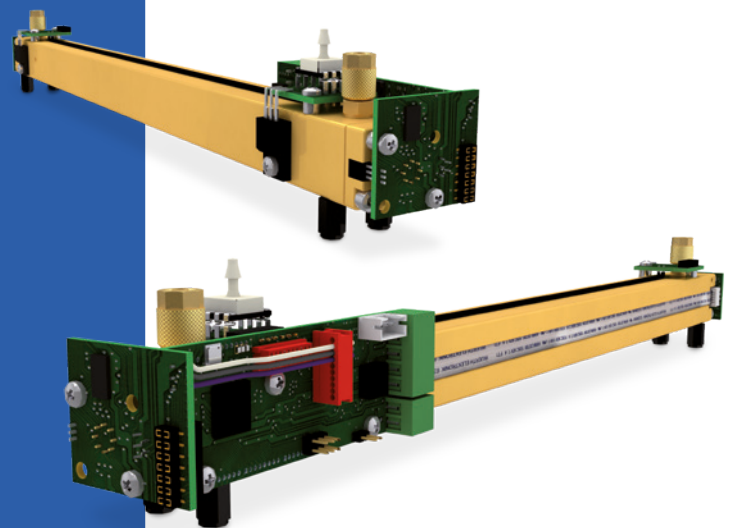
Short downtimes, high system availability

Optimally matched solutions without compromises

Design-in support by experienced smartGAS experts

Available accessories (required for design-in):

- Insulating housing for temperature stabilisation
- Gas cooler and filter for gas drying
- Filter for particle separation
- Pumps, hoses, gas connections
- Mounting accessories



Technical specifications

Dimensions:	336 mm x 30 mm x 37 mm
Supply voltage:	24 V DC +/- 10%
Average power consumption:	< 6 W (while heating-up) < 1 W (@ stabilized temperature)
Flow rate:	0.1 to 1.0 l/min
Detection limit:	< 1% FS
t ₉₀ (10 to 90% FS):	4 s (min.) to 60 s (max.) (adjustable)
Data communication:	Modbus ASCII/RTU via UART, autobaud, autoframe

For more information please consult the technical datasheets

Application examples

Emission monitoring	CO ₂ , NO and SO ₂
Industrial plants, cogeneration plants, power plants	CO ₂ and CO
Biogas plants	CO ₂ and CH ₄
Pest control / Container fumigation	SO ₂ F ₂
High-voltage systems	SF ₆ and CO/CF ₄

About smartGAS

smartGAS Mikrosensorik GmbH is a dynamic company specialized in the development, the production and the marketing of innovative gas sensors and gas analyzing solutions. smartGAS develops, produces and sells both OEM and customized sensor systems. Most of the products are based on infrared absorption (NDIR) and photoacoustic spectroscopy (PAS), which allows selective detection of a gas and accurate determination of its concentration. Recent developments have seen not only significant reduction in size but also an increase in the number of detectable gases. The sensors are used in applications such as fruit

ripening and storage, high voltage, emission monitoring, process control, refrigeration analyzers and monitoring, analytical appliances and process control.

The goal of smartGAS is to simplify the handling of gases using innovative technologies to protect the environment and to advance the safety for humans and equipment. Therefore we offer our standard products and customized solutions and provide support and assistance for the design-in.

Ambitioned to make earth a safer place.

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