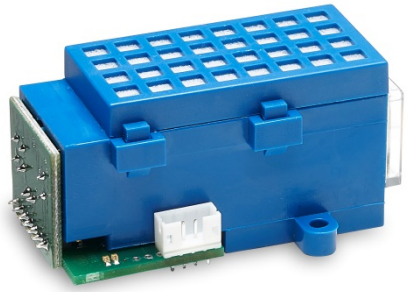
smartGAS
MIKROSENSORIK

blue performance®

smartMODUL BASIC EVO

CH_4 // Methane // 4.4 Vol.-%
smartGAS item number: B3-042446-03000



- **Pre calibrated**
- **Gas entry by diffusion**
- **3.3 - 6 V DC supply voltage**
- **Modbus ASCII or RTU**
- **Status indication by LED**

Non Dispersive Infrared (NDIR) gas sensor for ambient air monitoring using dual wavelength technology, designed especially for methane leakage.

The BASIC^{EVO} CH_4 sensor can easily be integrated into OEM systems, where long term stability, repeatability and reliable performance are required. It can be utilised as a methane detector in industrial facilities for detection of Methane below lower explosive level (LEL). Other scopes of applications comprise continuous gas monitoring in biogas stations and production processes as well as usage for various areas of scientific research. Special build-in solutions to provide IP54 protection and easy field gas-calibration are available.

Modbus ASCII or RTU data communication offers a variety of options to connect the BASIC^{EVO} gas sensor to a controller.

APPLICATION EXAMPLE
BIOGAS STATIONS
PRODUCTION PROCESS
RESEARCH

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General features	
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 .. 4.4 Vol.-% Full Scale (FS)
Gas supply:	by diffusion (atmospheric pressure)
Dimensions:	62 mm x 37 mm x 30 mm (L x W x H)
Warm-up time:	< 2 minutes (start up time)
	< 11 minutes (fade in finished)
	< 30 minutes (full specification)
Measuring response *	
Response time (t_{90}):	appr. 60 s
Digital resolution (@ zero):	0.001 Vol.-%
Detection limit (3 σ):	≤ 0.022 Vol.-%
Repeatability:	≤ ± 0.022 Vol.-%
Linearity error (straight line deviation):	≤ ± 0.066 Vol.-%
Long term stability (span):	≤ ± 0.088 Vol.-% over 12 month period
Long term stability (zero):	≤ ± 0.044 Vol.-% over 12 month period
Influence of T and P *	
Temp. dependence (zero):	≤ ± 0.008 Vol.-% per °C
Temp. dependence (span):	≤ ± 0.01 Vol.-% per °C
Pressure dependence:	≤± 0.14 Vol.-% of measurement value / hPa
Electrical inputs and outputs	
Supply voltage:	3.3 V .. 6.0 V DC
Supply current (peak):	< 400 mA @ 3.3 V, < 240 mA @ 5.0 V
Inrush current:	< 600 mA
Average power consumption:	< 800 mW
Digital output signal:	Modbus ASCII / RTU via UART, autobaud, autoframe
Calibration:	zero and span by SW
Climatic conditions	
Operating temperature:	-20 .. + 40 °C
Storage temperature:	-20 .. + 60 °C
Air pressure:	800 .. 1150 hPa
Ambient humidity:	0 .. 95 % relative humidity (not condensing)

* Typical values related to 1013 hPa and 22 °C 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.

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