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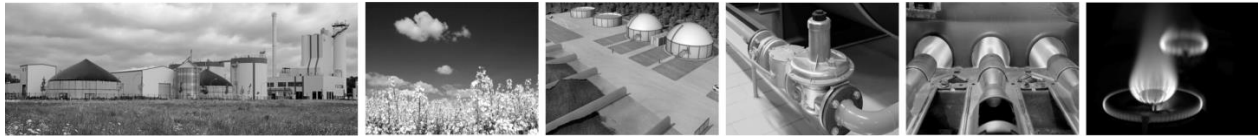
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smartGAS
MIKROSENSORIK

smartMODUL FLOW^{EVO}

Infrared gas sensor CH₄ // Methane // 5000 ppm
smartGAS item number: F3-042505-05000



- Pre calibrated
- Compact design
- 3/5 mm gas line connectors
- 3.3 - 6 V DC supply voltage
- Modbus ASCII or RTU
- Status indication by LED
- Low drift

Non Dispersive Infrared (NDIR) gas sensor for process control and gas analysing using dual wavelength technology. Designed for process control, lab analysing and environmental monitoring in a wide range of gas measurement systems.

The FLOW^{EVO} CH₄ sensor can easily be integrated into OEM systems, where long term stability, repeatability and reliable performance are required. Based on robust and precise NDIR technology our CH₄ sensors offer enduring solutions in the area of controlled combustion and process control. Furthermore, they can be used in environmental analysis and various other fields of scientific research where low signal drift and high selectivity are crucial for exact measurements and subsequent processing.

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

APPLICATION EXAMPLES

GAS ANALYSING

BIOGAS APPLICATION

ENVIRONMENTAL MONITORING

RESEARCH

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General features

Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0..5000 ppm Full Scale (FS)
Gas supply:	by flow (nearly atmospheric pressure)
Flow rate:	0.1 .. 1.0 l / min
Dimensions:	156 mm x 30 mm x 37 mm (L x W x H)
Warm-up time:	< 2 minutes (start up time) < 30 minutes (full specification)

Measuring response*

Response time (t ₉₀):	Aprx. 12 s @ 0.7 l / min
Digital resolution (@ zero):	1 ppm
Detection limit (3 σ):	≤ 50 ppm
Repeatability:	≤ ± 50 ppm
Linearity error (straight line deviation):	≤ ± 50 ppm
Long term stability (span):	≤ ± 100 ppm over 1000 h period
Long term stability (zero):	≤ ± 100 ppm over 1000 h period

Influence of T, P, flow rate, other*

Temp. dependence (zero):	≤ ± 10 ppm per °C
Temp. dependence (span):	≤ ± 15 ppm per °C
Pressure dependence:	+ 0.100 % / hPa
Flow rate dependence:	≤ ± 6 ppm per 0.1 l / min
Cross sensitivity (zero) other gases:	≤ ± 250 ppm @ CO ₂ in dry air

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:	< 450 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:	0 .. + 50 °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, Ta=25 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas.**

Stated values exclude calibration gas tolerance.

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