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smartGAS
MIKROSENSORIK

INNOVATIVE GAS SENSORS

smartMODUL^{BASIC} // technical data

Infrared gas sensor for diffusion with digital interface



- Infrared measuring principle (NDIR)
- Dual wavelength technology
- Gas entry by diffusion
- Modbus ASCII via UART
- Pre calibrated
- High selectivity

Infrared gas sensor using dual wavelength technology, for monitoring room air applications. Designed for different applications in a wide range of gas detection systems. The BASIC sensor is easy to integrate in OEM systems, where long term stability, repeatability and reliable performance are required. Temperature compensation, low drift and pre calibration, a wide range of different gases and measurement ranges, the smartGAS sensor is the best choice.

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Infrared gas sensor for diffusion with digital interface

B1-040446-00000

methane CH₄

4,4 Vol.%, 100 % LEL methane

General features	
Model type:	B1-040446-00000
Measurement principle:	Non Dispersive InfraRed (NDIR)
Gas:	methane, CH ₄
Measurement range:	0 - 4,4 Vol.%, 0 - 100 % LEL methane
Gas supply:	Ambient air, Diffusion
Dimensions sensor:	62 mm x 37 mm x 30 mm (L x H X W)
Warm-up time start up:	≤ 2 minutes
Warm-up time full spec:	≤ 30 minutes
measuring response ⁽¹⁾	
Response time (t ₉₀): ⁽¹⁾	appr. 30 s
Detection limit (3 δ):	≤ ± 1 % (typically)
Repeatability:	≤ ± 1 %
Linearity error: ⁽²⁾	≤ ± 2 %
Long term stability (zero): ⁽³⁾	≤ ± 2 % Full scale over 12 month period
Long term stability (span): ⁽³⁾	≤ ± 2 % Full scale over 12 month period
Influencing Variable ⁽⁴⁾	
Temp. dependence (zero):	≤ ± 0.1 % Full scale per °C
Temp. dependence (span):	≤ ± 0.2 % Full scale per °C
Pressure dependence (zero):	---
Pressure dependence (span):	≤ ± 0.2 % value per hPa
Electrical data	
Supply voltage:	5 V DC min.: 4,75 - max.: 5,25 V DC
Power consumption:	< 1 Watt
Digital output:	UART MODBUS ASCII
Unit intervall:	2 400 Baud
Analogue output:	---
Calibration:	zero and span by software
Climatic conditions	
Operating temperature:	-10 °C ... + 40 °C
Storage temperature:	-20 °C ... + 60 °C
Air pressure:	800 to 1 200 hPa
Humidity:	0 % to 95 % rel. Humidity (not condensing)
Optional accessories:	-

At first initiation and depending on application and ambient conditions recalibration is recommended.

Please consult smartGAS Sales for parts specified with other temperature and measurement ranges

1) Relating to sample gas pressure 1013 hPa absolute and 25°C ambient and gas temperature

2) Stated linearity error excludes calibration gas tolerance of 2%

3) For dry and clean test gas at 25°C and 1013 hPa absolute - depending on the operation and ambient conditions values may differ

4) Relating to calibration conditions (see final check)

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