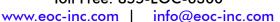




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smartMODUL FLOW

Infrared gas sensor CO₂ // CARBON DIOXIDE // 5 Vol.-% smartGAS item number: F3-212506-05000

















- Pre calibrated
- Compact design
- 3/5 mm gas line connectors
- 3.3 6.0 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} CO₂ 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 CO₂ 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 offer a variety of options to connect the ${\sf FLOW}^{\sf EVO}$ sensor to a controller.

APPLICATION EXAMPLE

GAS ANALYSING
PROCESS CONTROL
ENVIRONMENTAL MONITORING
RESEARCH



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General features

Measurement principle: Non Dispersive Infra-Red (NDIR), dual wavelength

Measurement range: 0 .. 5 Vol.-% Full Scale (FS)

Gas supply: by flow (nearly atmospheric pressure)

Flow rate: 0.1 .. 1.0 l / min

Dimensions: 76 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}) : Appr. 12 s @ 0.7 l / min

Digital resolution (@ zero): 0.01 % Detection limit (3 σ): \leq 0.03 % Repeatability: \leq \pm 0.4 % Linearity error (straight line deviation): \leq \pm 0.7 %

Long term stability (span): $\leq \pm 0.1 \%$ over 1000 h period Long term stability (zero): $\leq \pm 0.1 \%$ over 1000 h period

Influence of T, P, flow rate, other*

Temp. dependence (zero): $\leq \pm 0.01 \%$ per °C Temp. dependence (span): $\leq \pm 0.02 \%$ per °C Pressure dependence: + 0.156 % / hPa

Flow rate dependence: $\leq \pm 0.01 \%$ per 0.1 l/min

Cross sensitivity (zero) other gases: consult factory

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: $0..+50 \,^{\circ}\text{C}$ Storage temperature: $-20..+60 \,^{\circ}\text{C}$ Air pressure: $800..1150 \, \text{hPa}$

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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