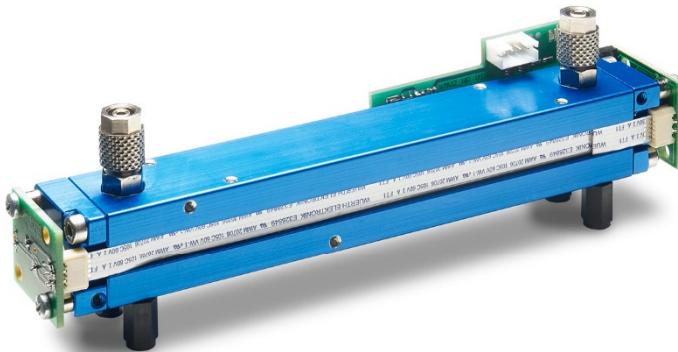


FLOW^{EVO}

Infrared gas sensor CO // Carbon monoxide // 2000 ppm
smartGAS item number: F3-222205-05000



- 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} CO 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 CO 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 FLOW^{EVO} sensor to a controller.

APPLICATION EXAMPLE

- EMISSION MONITORING
- ENVIRONMENTAL MONITORING
- PROCESS CONTROL
- RESEARCH
- GAS ANALYSING
- BIO GAS

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General features

| | |
|------------------------|--|
| Measurement principle: | Non Dispersive Infra-Red (NDIR), dual wavelength |
| Measurement range: | 0..2000 ppm Full Scale (FS) |
| Gas supply: | by flow (nearly atmospheric pressure) |
| Flow rate: | 0.1 .. 1.0 l / min |
| Dimensions: | 153 mm x 30 mm x 36 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): | 1 ppm |
| Detection limit (3σ): | ≤ 20 ppm |
| Repeatability: | $\leq \pm 20$ ppm |
| Linearity error (straight line deviation): | $\leq \pm 30$ ppm |
| Long term stability (span): | $\leq \pm 50$ ppm over 1000 h period |
| Long term stability (zero): | $\leq \pm 50$ ppm over 1000 h period |

Influence of T, P, flow rate, other*

| | |
|---------------------------------------|---|
| Temp. dependence (zero): | $\leq \pm 3$ ppm per °C |
| Temp. dependence (span): | $\leq \pm 6$ ppm per °C |
| Pressure dependence: | + 0.134 % of measurement value / hPa |
| Flow rate dependence: | $\leq \pm 6$ ppm per 0.1 l / min |
| Cross sensitivity (zero) other gases: | $\leq \pm 700$ ppm @10 % CO ₂ in dry air |
| Gas dew point requirement: | < + 5 °C |

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, autotransmit |
| 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, $T_a=22$ °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas. Stated values exclude calibration gas tolerance.

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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.