Release date: 22.12.2023

smartGAS.

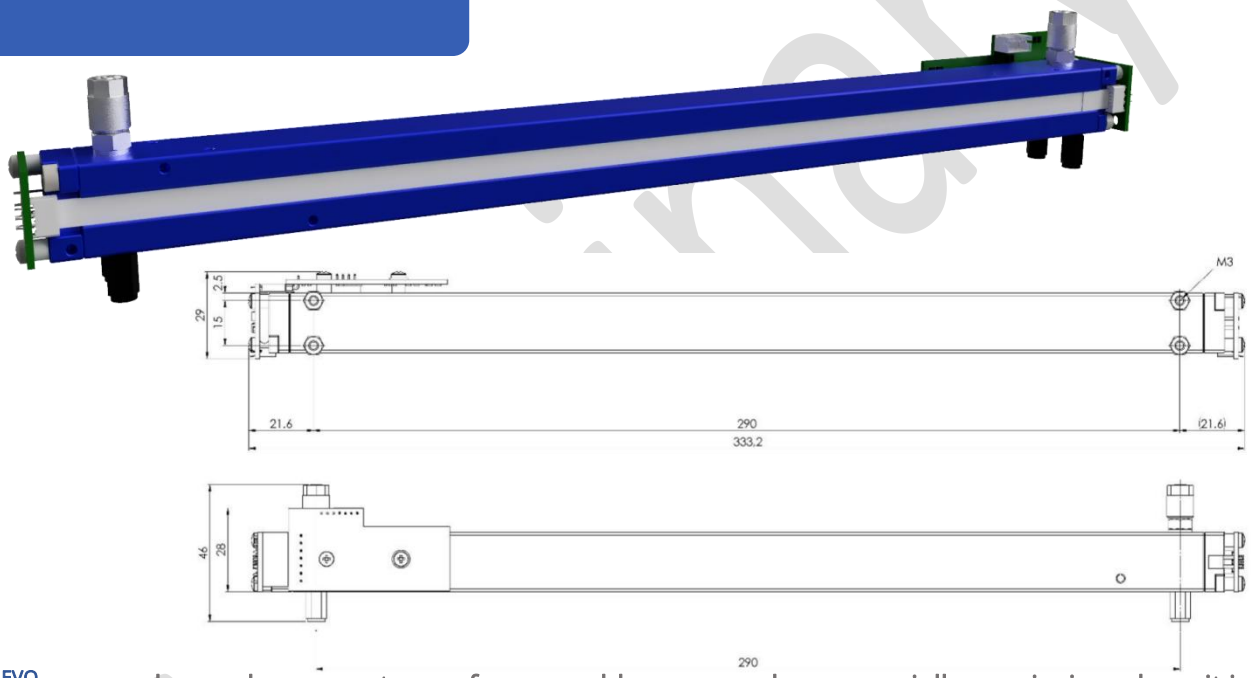
MADE IN GERMANY

FLOW^{EVO}

Infrared gas Sensor
Methane CH_4
2000 ppm
smartGAS item number: F3-042205-05000

Product features:

- "Ready to use" NDIR sensors
- Compact Design
- 3.3-6VDC Power Supply
- Low maintenance
- Low detection limits
- Selective against influencing gases
- Flexible interfaces
- Temperature and drift compensated
- Compact construction



The Flow^{EVO} sensors have a large spectrum of measurable gases and are especially convincing where it is important to have the highest precision and reliability. Different versions can be very easily combined, also facilitating complex measuring tasks. All smartGAS sensors are designated by low detection limits, very small drift, a large temperature range and a fast response time and markedly low operating and maintenance costs. Our NDIR sensors in the Flow^{EVO} series combine measuring precision with compact design and simple handling.

Optional Accessories

- Case and thermal isolation
- Heater and heat controller
- Plus Controller
- USB Adapter
- CONNECT Interface
- Calibration/Data Logger software
- Calibration and test gases
- Gas Cooler, Filter, Pre-treatment

Support

- Design-In support
- Customization:
  - Software
  - Protocols
  - Measuring ranges
  - Background gas optimizing
  - Interfaces

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FLOW^{EVO} | Methane CH_4 | F3-042205-05000

General features

Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 … 2000 ppm
Gas supply:	by flow (nearly atmospheric pressure)
Mounting dimensions:	336 mm x 30 mm x 50 mm (L x W x H)
Flow Rate:	0.1 ... 1.0 l/min
Warm-up time:	< 2 minutes (start-up time) | < 30 minutes (full specification

Measuring response*

Digital resolution:	0.1 ppm
Response time (t90) 0 to 90%[FS] @0.7 l/min** :	< 17.5 s (standard Mode) | < 1.7 s (Fast Mode)
Detection limit (3 σ):	≤ 1 % [FS]
Repeatability:	≤ ± 2 % [FS]
Linearity error (straight line deviation):	≤ ±1 % [FS]
Linearity error (straight line deviation):	≤ ±1 % [FS]
Long term stability (zero):	t.b.d
Long term stability (span):	t.b.d

Influence of T,P,flow rate,other*

Temp. dependence (zero):	≤ ± 0.3 % [FS] per °C
Temp. dependence (span):	≤ ± 0.6 % [FS] per °C
Pressure dependence:	+ 0.1 % [FS] of actual reading / hPa
Flow rate dependence:	≤ ± 6 ppm per 0.1 l / min
Cross sensitivity (zero) other gases:	≤ + 250 ppm @ 10% CO_2 in dry air
Gas dew point requirement:	< + 5°C dew point (stable), particle free and clean sample gas

Electrical parameters

Supply voltage:	3.3V .. 6.0V DC
Supply current (peak):	< 400mA @ 3.3V, < 240mA @ 5.0V
Inrush current:	< 600mA
Average power consumption:	< 800mW
Digital output signal:	Modbus ASCII / RTU via RS485, autobaud, autoframe
Calibration:	zero and span by software

Climatic conditions

Operating temperature:	1 .. + 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 = 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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