

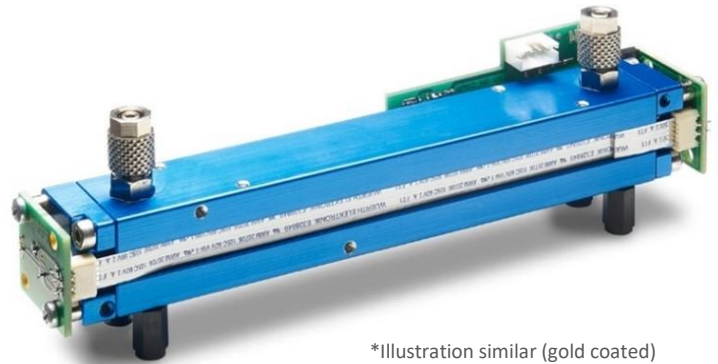
MADE IN GERMANY



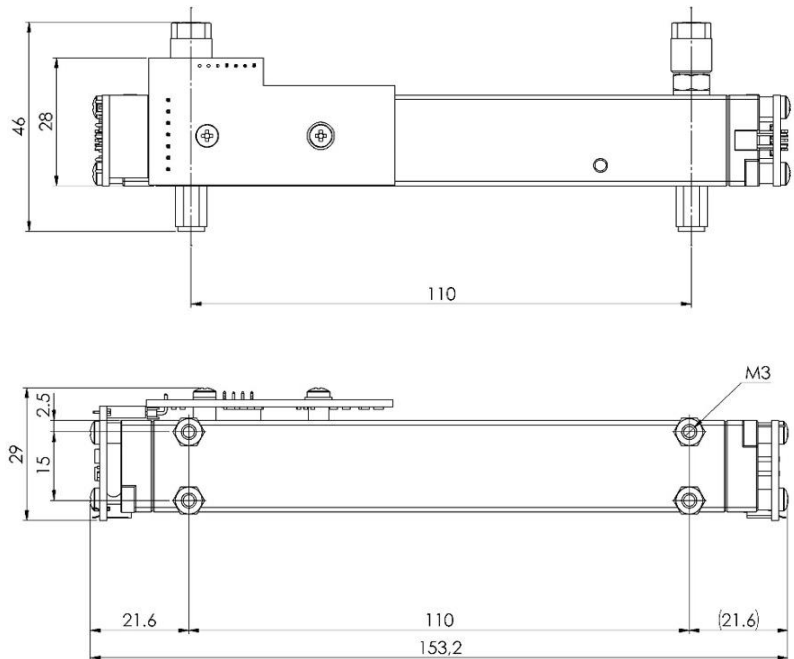
## FLOW<sup>EVO</sup>

Infrared gas Sensor  
 Methane CH<sub>4</sub>  
 (also applicable for Bromomethane CH<sub>3</sub>Br / Appr. 35 Vol.-%)  
 15 Vol.-%  
 smartGAS item number: F3-042157-05005

- Pre calibrated
- Compact Design
- 3/5 mm gas line connector
- 3.3–6 V DC supply voltage
- Modbus ASCII or RTU
- Status indicated by LED
- Low drift



\*Illustration similar (gold coated)



### Application examples

Process measurement of CH<sub>4</sub>  
 Fumigation monitoring of CH<sub>3</sub>BR

### Available equipment

Gas cooler  
 Particle filter  
 Gas pump  
 Calibration Software  
 Mounting equipment

### Available design in support

Mechanical Installation  
 Data communication  
 Gas pre-treatment

## General features

Measurement principle:	Non-Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 ... 2.5 Vol.-% Full Scale (FS)
Gas supply:	by flow (nearly atmospheric pressure)
Flow rate:	0.1 ... 1.0 l / min
Mounting dimensions:	116 mm x 30 mm x 50 mm (L x W x H)
Warm-up time:	< 2 minutes (start-up time) < 30 minutes (full specification)

## Measuring response\*

Digital resolution:	0.001 Vol.-%
Response time @ 0.7 l / min**:	<i>Standard:</i> <i>Fast:</i>
t <sub>90</sub> (10 to 90 % FS):	≤ 10.8 s                                      ≤ 0.7 s
t <sub>0n</sub> (0 to 90 % FS):	≤ 16.5 s                                      ≤ 1.9 s
Detection limit (3 σ):	≤ 0.015 Vol.-%                              ≤ 0.028 Vol.-%
Repeatability:	≤ ± 0.05 Vol.-%
Linearity error (straight line deviation):	≤ ± 0.1 Vol.-% ***
Long term stability (zero):	≤ ± 0.1 Vol.-% over 1000 h period
Long term stability (span):	≤ ± 0.9 Vol.-% over 1000 h period

## Influence of T, P, flow rate, other\*

Temp. dependence (zero):	≤ ± 0.01 Vol.-% per °C
Temp. dependence (span):	≤ ± 0.01 Vol.-% per °C
Pressure dependence:	+ 0.100 % of actual reading / hPa
Flow rate dependence:	≤ ± 0.02 Vol.-% per 0.1 l / min
Cross sensitivity (zero) other gases:	consult factory
Scaling factor (CH <sub>3</sub> BR/CH <sub>4</sub> )	≈ 2,3695
Gas dew point requirement:	< + 5°C dew point (stable), particle free and clean sample gas

## Electrical parameters

Supply voltage	3.3 V ... 6.0 VDC
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, 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, T<sub>a</sub> = 22 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas.

Stated values exclude calibration gas tolerance.

\*\* Adjustable only via smartGAS Calibration-Tool SW.

\*\*\* Span calibration recommended for use with CH<sub>3</sub>BR

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For more information, please visit [www.smartgas.eu](http://www.smartgas.eu) or contact us at [sales@smartgas.eu](mailto: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.