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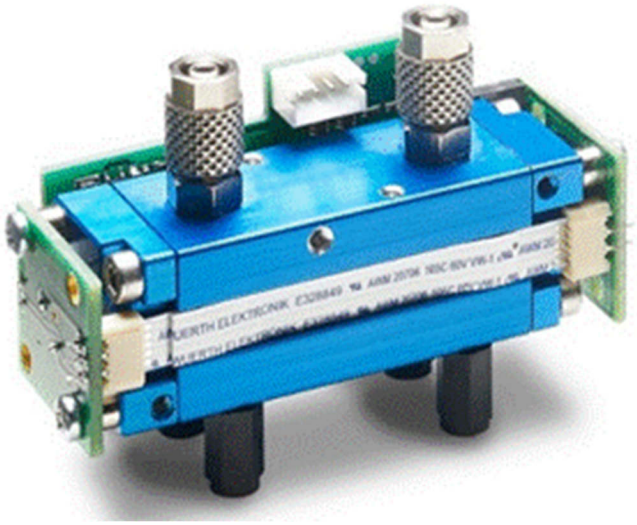
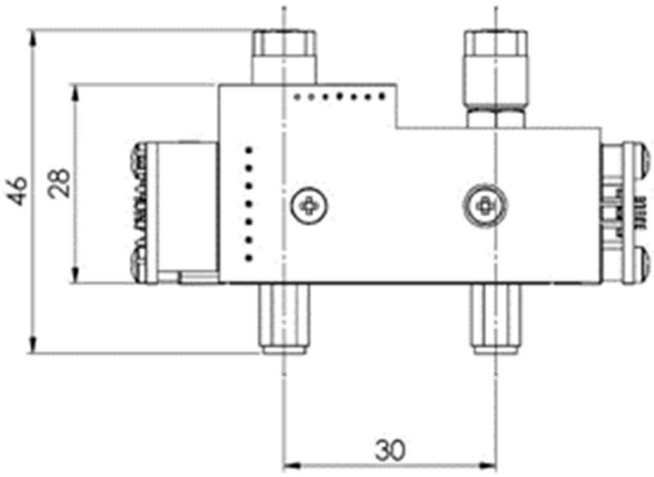
MADE IN GERMANY

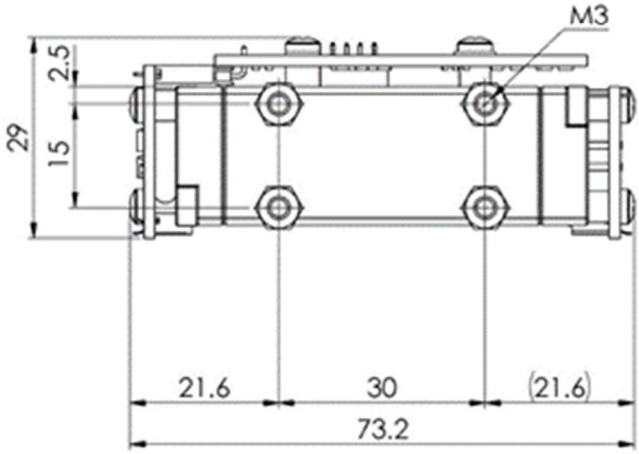
FLOW^{EVO}

Infrared gas Sensor
Carbon dioxide CO_2
5 Vol.-%
smartGAS item number: F3-212506-05000



- **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**





Application examples
Gas analysis
Process control
Environmental monitoring

Available equipment
Gas cooler
Particle filter
Gas pump
Calibration Software
Mounting equipment

Available design in support
Mechanical Installation
Data communication
Gas pre-treatment

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DS_F3_212506-05000_5Vol.-%
Edition 04_05/2021

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FLOW^{EVO} I Carbon dioxide CO_2 I F3-212506-05000

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
Mounting dimensions:	76 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**:	*Standard*:	*Fast:*
t_{90} (10 to 90 % FS):	≤ 9.9 s	≤ 0.7 s
t_{on} (0 to 90 % FS):	≤ 16.5 s	≤ 1.8 s
Detection limit (3 σ):	≤ 0.03 Vol.-%	≤ 0.055 Vol.-%
Repeatability:	≤ ± 0.04 Vol.-%	
Linearity error (straight line deviation):	≤ ± 0.07 Vol.-%	
Long term stability (zero):	≤ ± 0.1 Vol.-% over 1000 h period	
Long term stability (span):	≤ ± 0.6 Vol.-% over 1000 h period	

Influence of T, P, flow rate, other*

Temp. dependence (zero):	≤ ± 0.01 Vol.-% per °C
Temp. dependence (span):	≤ ± 0.02 Vol.-% per °C
Pressure dependence:	+ 0.156 % of actual reading / hPa
Flow rate dependence:	≤ ± 0.01 Vol.-% per 0.1 l / min
Cross sensitivity (zero) other gases:	consult factory
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, Ta = 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.

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