

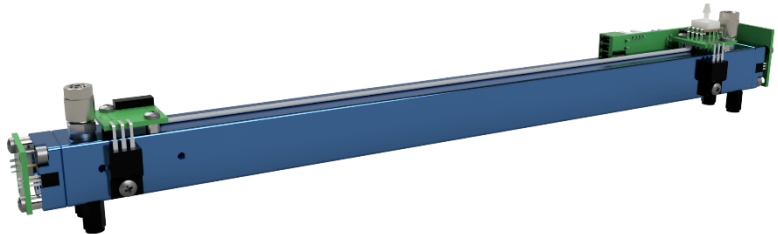
MADE IN GERMANY



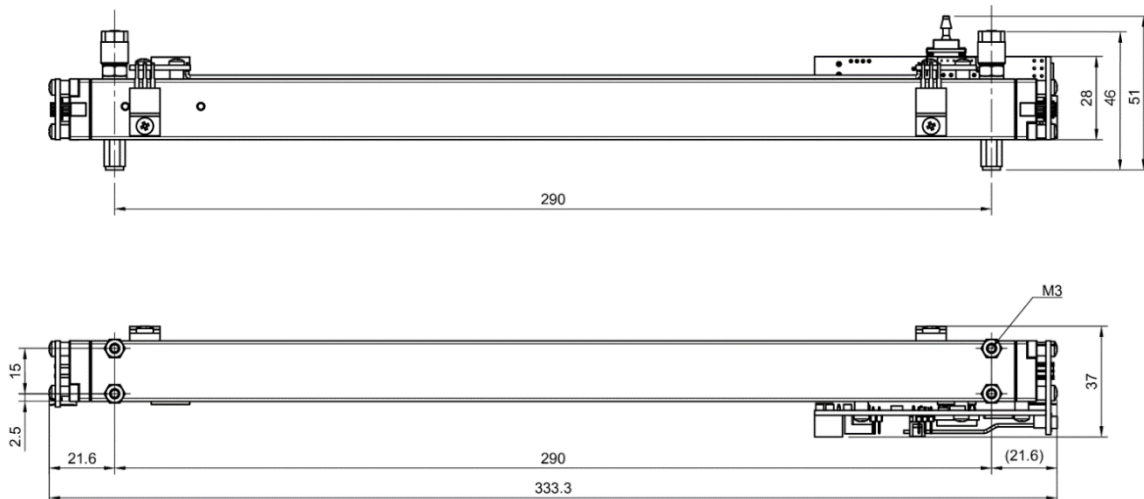
## FLOW<sup>EVO</sup>

Infrared gas Sensor  
Nitrous oxide N<sub>2</sub>O  
500 ppm  
smartGAS item number: F3-272504-05000

- 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



Picture similar



### Application examples

Gas analysis  
Environmental monitoring  
Medical application

### 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 ... 500 ppm Full Scale (FS)	
Gas supply:	by flow (nearly atmospheric pressure)	
Flow rate:	0.1 ... 1.0 l / min	
Mounting dimensions:	336 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:	1 ppm	
Response time @ 0.7 l / min**:	<i>Standard:</i>	<i>Fast:</i>
t <sub>90</sub> (10 to 90 % FS):	≤ 13.2 s	≤ 1.1 s
t <sub>0n</sub> (0 to 90 % FS):	≤ 17.5 s	≤ 1.7 s
Detection limit (3 σ):	≤ 0.6 ppm	≤ 2 ppm
Repeatability:	≤ ± 2.5 ppm	
Linearity error (straight line deviation):	≤ ± 4.9 ppm	
Long term stability (zero):	≤ ± 16 ppm over 1000 h period	
Long term stability (span):	≤ ± 22 ppm over 1000 h period	

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

Temp. dependence (zero):	≤ ± 0.1 ppm per °C
Temp. dependence (span):	≤ ± 0.4 ppm per °C
Pressure dependence:	+ 0.100 % of actual reading / hPa
Flow rate dependence:	≤ ± 0.5 ppm per 0.1 l / min
Cross sensitivity (zero) other gases:	≤ ± 0.1 ppm @ 5 ppm SO <sub>2</sub> ≤ ± 0.5 ppm @ 5 ppm CO ≤ ± 40 ppm @ 2000 ppm CO <sub>2</sub> ≤ ± 225 ppm @ 20 Vol.-% CO <sub>2</sub> ≤ ± 2.5 ppm @ 10.000 ppm H <sub>2</sub> O
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.

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