



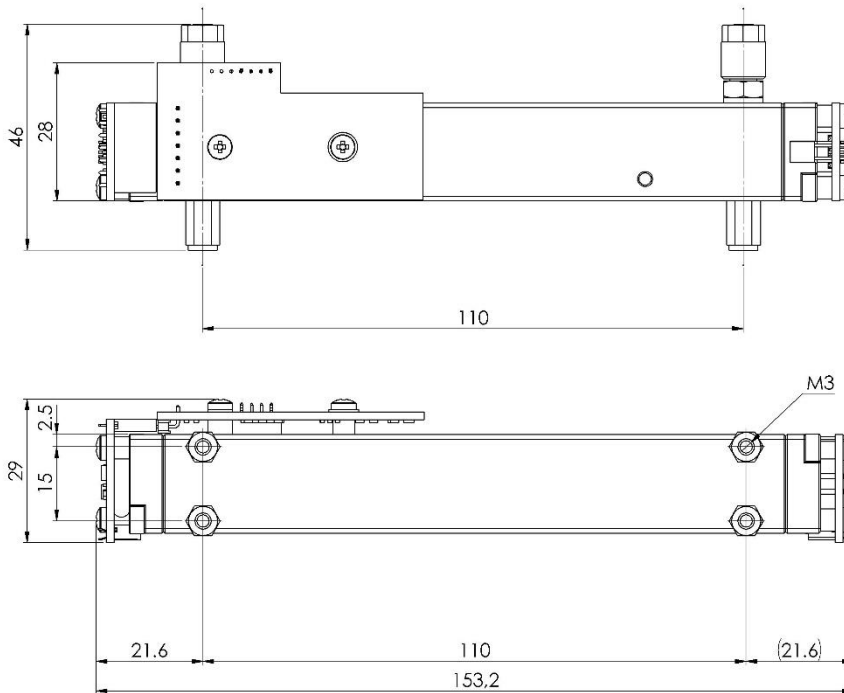
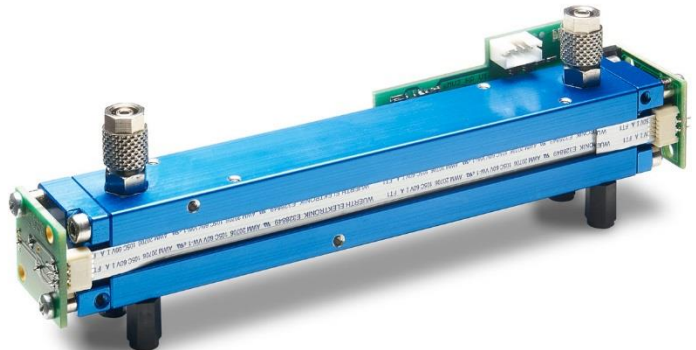
**FLOW<sup>EVO</sup>**

Infrared gas sensor

CO<sub>2</sub> // Carbon dioxide // 2000 ppm

smartGAS item number: F3-212205-05000

- 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



**APPLICATION EXAMPLE**

**GAS ANALYSING // PROCESS CONTROL // ENVIRONMENTAL MONITORING**

<b>F3-212205-05000</b>		<b>CO<sub>2</sub> // Carbon dioxide // 2000 ppm</b>	
<b>General features</b>			
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		
Mounting dimensions:	156 mm x 30 mm x 50 mm (L x W x H)		
Warm-up time:	< 2 minutes (start up time) < 30 minutes (full specification)		
<b>Measuring response*</b>			
Digital resolution:	1 ppm		
Response time @ 0.7 l / min**:	<i>Standard:</i>	<i>Fast:</i>	
t <sub>90</sub> (10 to 90 % FS):	≤ 11.6 s	≤ 0.9 s	
t <sub>on</sub> (0 to 90 % FS):	≤ 15.9 s	≤ 1.6 s	
Detection limit (3 σ):	≤ 8 ppm	≤ 20 ppm	
Repeatability:	≤ ± 15 ppm		
Linearity error (straight line deviation):	≤ ± 20 ppm		
Long term stability (zero):	≤ ± 35 ppm over 1000 h period		
Long term stability (span):	≤ ± 100 ppm over 1000 h period		
<b>Influence of T, P, flow rate, other*</b>			
Temp. dependence (zero):	≤ ± 2 ppm per °C		
Temp. dependence (span):	≤ ± 4 ppm per °C		
Pressure dependence:	+ 0.156 % of actual reading / hPa		
Flow rate dependence:	≤ ± 3 ppm per 0.1 l / min		
Cross sensitivity (zero) other gases:	consult manufacturer		
<b>Electrical inputs and outputs</b>			
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		
<b>Climatic conditions</b>			
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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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.