



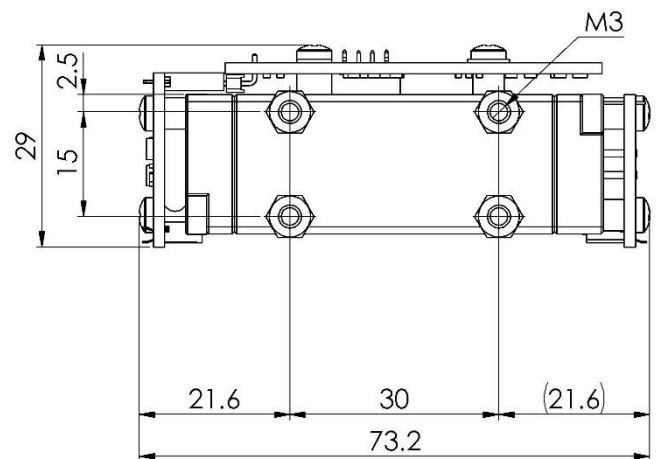
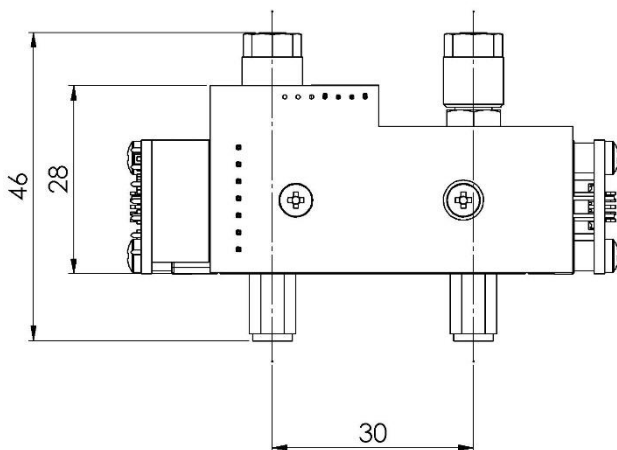
FLOW^{EVO} for Biogas application

Infrared gas sensor

CO₂ // Carbon dioxide // 50 Vol.-%

smartGAS item number: F3-214507-05000

- 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
- Low drift



APPLICATION EXAMPLE

GAS ANALYSING // PROCESS CONTROL // BIOGAS APPLICATION

F3-214507-05000		CO₂ // Carbon dioxide // 50 Vol.-%	
General features			
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength		
Measurement range:	0 ... 50 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:	0.01 Vol.-%		
Response time @ 0.7 l / min**:	<i>Standard:</i>	<i>Fast:</i>	
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):	≤ 0.2 Vol.-%	≤ 0.36 Vol.-%	
Repeatability:	≤ ± 0.4 Vol.-%		
Linearity error (straight line deviation):	≤ ± 0.6 Vol.-%		
Long term stability (zero):	≤ ± 0.5 Vol.-% over 1000 h period		
Long term stability (span):	≤ ± 1.0 Vol.-% over 1000 h period		
Influence of T, P, flow rate, other*			
Temp. dependence (zero):	≤ ± 0.1 Vol.-% per °C		
Temp. dependence (span):	≤ ± 0.2 Vol.-% per °C		
Pressure dependence:	+ 0.156 % of actual reading / hPa		
Flow rate dependence:	≤ ± 0.1 Vol.-% per 0.1 l / min		
Cross sensitivity (zero) other gases:	consult manufacturer		
Electrical inputs and outputs			
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 _a = 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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For more information, please visit www.smartgas.eu or contact us at 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.