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smartGAS.

MADE IN GERMANY

FLOW^{EVO} PLUS

Infrared gas Sensor
Sulfuryl Flouride SO₂F₂
100 ppm
smartGAS item number: P3-412104-xxx

Product features:

- Non Dispersive Infra-Red (NDIR)
- Dual beam / Reference channel
- Low Power Consumption
- Small Size
- Low Maintenance
- Very low Noise
- High Readout Frequency
- Optional pressure Compensated
- Optional constant heated
- Digital Interface RS232 + RS 485
- Different digital Protocols
- Analog Interfaces



The Flow^{EVO} PLUS sensors have a large spectrum of measurable gases and are especially convincing where it is important to have the highest precision and reliability. Different versions can be very easily combined, also facilitating complex measuring tasks. All smartGAS sensors are designated by low detection limits, very small drift, a large temperature range and a fast response time and markedly low operating and maintenance costs. Our NDIR sensors in the Flow^{EVO} PLUS series combine measuring precision with very low noise level and LDL at extreme short Tgo time in a very compact design.

Options

- Case with thermal isolation
- USB Adapter
- Calibration Software
- Data Logger software
- Calibration and Test-Gases
- Gas Cooler, Filter
- Pre-Treatment

Support

- Design-In support
- Customization:
 - Software
 - Protocols
 - Measuring ranges
 - Background gas optimizing
 - Interfaces

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General features

Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 ... 100 ppm Full Scale (FS)
Gas supply:	by flow (nearly atmospheric pressure)
Mounting dimensions:	336 mm x 46 mm x 54 mm (L x W x H) Other Dimensions : see Technical Drawing
Warm-up time (start up time):	< 2 minutes (start-up time)
Warm-up time (full specification):	< 30 minutes (full specification) if heating temperature reached

Measuring response*

Digital resolution:	0.01 ppm
Response time t_{on} (0 to 90 % FS):	≤ 25 s@ 0.7 L/min
Readout Frequency	Up to 10 Hz
Detection limit (3 σ):	≤ 1 % [FS]
Repeatability:	≤ ±1 % [FS]
Linearity error (straight line deviation):	≤ ±2 % [FS]
Long term stability:::	≤ 4 %[FS] / month [Zero] ≤ 5 %[FS] / month [Span]

Influence of T, P, flow rate*

Temp. dependence (zero):	≤ ±0.3 %[FS] per °C without constant Heating
Temp. dependence (span):	≤ ±0.5 %[FS] per °C without constant Heating
Pressure dependence:	+ 0.1 %[FS] of actual reading / hPa without pressure compensation

Electrical parameters

Supply voltage:	10-26VDC, recommend 24VDC
Supply current (peak):	< 1.3A @24V with heater
Max power consumption:	< 31 W @24V with heater < 0.8 W @24V without heater
Digital Interface	RS232 and RS485
Digital output signal:	Free ASCII / Modbus ASCII / RTU , autobaud, autoframe
Calibration:	zero and span by software

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)

Options

P3-412104-1x1	With Heater active controlled	
P3-412104-1x2	With Cuvette Pressure Compensation	
P3-412104-1x3	Option Heater 1x1 and Cuvette Pressure Compensation	
P3-412104-11x	Analog Interface1	4-20mA Isolated (3kV/rms), max load 650 Ω
P3-412104-12x	Analog Interface2a	0-20mA max load 600 Ω 0-2/5/10 VDC min resistance load 2k Ω
P3-412104-13x	Analog Interface2b	4-20mA max load 600 Ω 0.4-2/1-5/2-10 VDC min resistance load 2k Ω

* 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.

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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.

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