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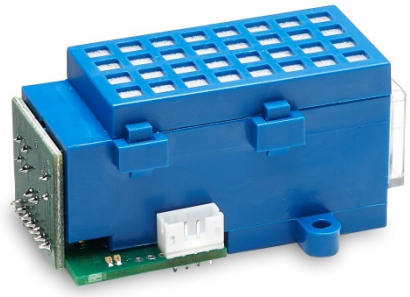
blue performance

BASIC EVO

Infrared gas sensor CO_2 // Carbone Dioxide // 5 Vol.-%
smartGAS item Number: B3-212506-00000



- **Pre calibrated**
- **Gas entry by diffusion**
- **3.3 - 6 V DC supply voltage**
- **Modbus ASCII or RTU**
- **Status indication by LED**

Non Dispersive Infrared (NDIR) gas sensor for ambient air monitoring using dual wavelength technology.

The BASIC^{EVO} CO_2 sensor can easily be integrated into OEM systems, where long term stability, repeatability and reliable performance are required. It can be utilised for ambient air monitoring in the field of air conditioning devices and workplace security and for various areas of scientific research. Special build-in solutions to provide IP54 protection and easy field gas-calibration are available as option.

Modbus ASCII or RTU data communication offers a variety of options to connect the BASIC^{EVO} gas sensor to a controller.

APPLICATION EXAMPLE
HOTEL AIR CONDITIONING
WORKPLACE SECURITY
RESEARCH

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General features	
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 .. 5 Vol.-% Full Scale (FS)
Gas supply:	by diffusion (atmospheric pressure)
Dimensions:	62 mm x 37 mm x 30 mm (L x W x H)
Warm-up time:	< 2 minutes (start up time)
	< 11 minutes (fade in finished)
	< 30 minutes (full specification)
Measuring response*	
Response time (t_{90}):	appr. 60 s
Digital resolution (@ zero):	0.001 Vol.-%
Detection limit (3 σ):	≤ 0.05 Vol.-%
Repeatability:	≤ ± 0.05 Vol.-%
Linearity error (straight line deviation):	≤ ± 0.2 Vol.-%
Long term stability (span):	≤ ± 0.2 Vol.-% over 12 month period
Long term stability (zero):	≤ ± 0.1 Vol.-% over 12 month period
Influence of T and P*	
Temp. dependence (zero):	≤ ± 0.007 Vol.-% per °C
Temp. dependence (span):	≤ ± 0.015 Vol.-% per °C
Pressure dependence:	± 0.156 Vol.-% of measurement value / hPa
Electrical inputs and outputs	
Supply voltage:	3.3 V .. 6.0 V DC
Supply current (peak):	< 500 mA @ 3.3 V, < 240 mA @ 6.0 V
Inrush current:	< 1000 mA
Average power consumption:	< 900 mW
Digital output signal:	Modbus ASCII / RTU via UART, autobaud, autoframe
Calibration:	zero and span by SW
Climatic conditions	
Operating temperature:	-10 .. + 40 °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 and 22 °C 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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