

MADE IN GERMANY

## TRANSMITTER<sup>EVO</sup>

Infrared gas detector  
Nitrous Oxide N<sub>2</sub>O 500 ppm  
smartGAS item number: T4-272504

### Product features:

- Non Dispersive Infra-Red (NDIR)
- Dual Detector / Reference channel
- Ready to install
- IP54 protection
- 12 - 28V DC supply voltage



The TRANSMITTER<sup>EVO</sup> NDIR gas sensor is used for ambient air monitoring using dual wavelength technology. It is designed for leak detection in small concentration ranges (ppm range) as wall mount room air monitoring device. TRANSMITTER<sup>EVO</sup> diffusion sensors advantages are a long lifetime, low detection limits, very slight drift, a large temperature range, a fast response time and low maintenance costs. The TRANSMITTER<sup>EVO</sup> series is therefore the optimal solution for all applications in which an ambient air sensor should be reliable and at the same time simple in its handling.

### Sample Applications

- Hotel Air Conditioning
- Public Building Air Conditioning
- Cold Storage Rooms
- Hospitals
- Recycling Companies
- Gas Supply Stations
- Gas Storage Rooms

### Support and Accessories

- Design-In support
- Calibration Adapter
- Calibration Tool
- Data Logger
- Interfaces
- Calibration Gases
- Customization

## General features

Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 ... 500 ppm Full Scale (FS)
Gas supply:	by diffusion (atmospheric pressure)
Mounting dimensions:	151 mm x 80 mm x 95 mm (L x W x H) Other Dimensions : see Technical Drawing
Warm-up time:	< 2 minutes (start up time) < 11 minutes (fade in finished) < 30 minutes (full specification)
Protection class:	IP54
Electrical connection:	Cable diameter without adapter plug max. 1.5 mm <sup>2</sup> (single wire) or 1 mm <sup>2</sup> (strand). Cable diameter with adapter max. 2.5 mm <sup>2</sup>

## Measuring response\*

Response time (t <sub>90</sub> ):	< 30 s
Digital resolution:	0.1 ppm
Detection limit (3 σ):	≤ 1 % [FS]
Repeatability:	≤ ± 1 % [FS]
Linearity error (straight line deviation):	≤ ± 2 % [FS]
Long term stability (zero):	≤ ± 2% [FS] over 12 month period
Long term stability (span):	≤ ± 1.5% [FS] over 12 month period

## Influence of T, P, other\*

Temp. dependence (zero):	≤ ± 0.5 % [FS] per °C
Temp. dependence (span):	≤ ± 0.5 % [FS] per °C
Pressure dependence:	+ 0.1 % of actual reading / hPa
Cross sensitivity (zero) other gases:	≤ ± 50 ppm @ 2000 ppm CO <sub>2</sub>

## Electrical parameters

Supply voltage	12 V . . . 28 VDC
Supply current (peak):	< 85 mA @ 12 V, < 45 mA @ 28 V
Inrush current:	< 100 mA
Average power consumption:	< 1000 mW
Digital output signal:	Modbus ASCII / RTU via RS 485, autobaud, autoframe
Analogue output signal:	0(4) –20 mA, max 500 Ω / 0-2 V / 0-5 V / 0-10 V (DC)
Calibration:	zero and span by SW or push buttons

## Climatic conditions

Operating temperature:	-20 ... + 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, 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](http://www.smartgas.eu) or contact us at [sales@smartgas.eu](mailto: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.