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MADE IN GERMANY

TRANSMITTER^{EVO} PRO

Infrared gas detector
Broadband Freon(R134a) 2000(1000)ppm
smartGAS item number: T4-712205-108xx

Product features:

- Non Dispersive Infra-Red (NDIR)
- Dual Detector / Reference channel
- Measure 20 gases with one sensor
- Internal calibration curve for each Freon
- Dual range 2000 ppm and 1000 ppm select-able
- Maximal flexibility in installation
- Easy target gas selection
- Ready to install
- IP54 protection
- 12 - 28V DC supply voltage



The **TRANSMITTER^{EVO}** 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^{EVO}** 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^{EVO} 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

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TRANSMITTER^{EVO} PRO | Broadband Freon | T4-712205-108 xx

General features	Release date: 6 Oct 2026
Measurement principle:	Non Dispersive Infra-Red (NDIR), dual wavelength
Measurement range:	0 … 2000 ppm Full Scale (FS) (1000 ppm adjustable)
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:	max. 1.3 mm² AWG16

Measuring response*	
Response time (t_{90}):	< 30 s
Digital resolution:	1 ppm
Detection limit (3 σ):	≤ 1 % [FS]
Repeatability:	≤ ± 2 % [FS]
Linearity error (straight line deviation):	≤ ±2 % [FS] @R134a | other see table on page 2
Long term stability (zero):	≤ ± 6% [FS] over 12 month period
Long term stability (span):	≤ ± 5% [FS] over 12 month period

Influence of T, P, other*	
Temp. dependence (zero):	≤ ± 0.3 % [FS] per °C
Temp. dependence (span):	≤ ± 0.6 % [FS] per °C
Pressure dependence:	+ 0.1 % of actual reading / hPa

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 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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TRANSMITTER^{EVO} PRO | Broadband Freon | T4-712205-108

Broadband Freon Table : Article code B3-712205-10801

Freon type	Freon Index	GWP AR5[2]	Linearity error (3 σ) With R134a span calibration	Linearity error (3 σ) With target gas calibration
R134a	Reference	1300	≤ ± 2 % [FS]	
R22	0	1760	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R23	1	12400	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R32	2	677	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R123	3	79	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R125	4	3170	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R404a	5	3940	≤ ± 12 % [FS]	≤ ± 3 % [FS]
R407a	6	1920	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R407c	7	1620	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R407f	8	1674	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R449a	9	1282	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R410a	10	1920	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R452a	11	1945	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R454b	12	467	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R455a	13	146	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R507	14	3990	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R513a	15	573	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R515b	16	299	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R1233zd	17	3.88[5]	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R1234yf	18	1.81[5]	≤ ± 15 % [FS]	≤ ± 3 % [FS]
R1234ze	19	1.37[5]	≤ ± 10 % [FS]	≤ ± 3 % [FS]

Note[2] Data Source IPCC Intergovernmental Panel on Climate Change Status Report AR5 2013/2014
Note[3] Not included in IPCC AR5
Note[4] Data Source IPCC AR4 100-year GWP
Note[5] Data Source IPCC AR6 100-year GWP

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TRANSMITTER^{EVO} PRO | Broadband Freon | T4-712205-108

Broadband Freon Table : Article code B3-712205-10802

Freon type	Freon Index	GWP AR5[2]	Linearity error (3 σ) With R134a span calibration	Linearity error (3 σ) With target gas calibration
R134a	Reference	1300	≤ ± 2 % [FS]	
R152a	0	138	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R218	1	8900	≤ ± 20 % [FS]	≤ ± 4 % [FS]
R245fa	2	856	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R422d	3	2470	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R472a	4	329	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R472b	5	484	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R508b	6	11700	≤ ± 15 % [FS]	≤ ± 3 % [FS]
R512a	7	567[3]	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R514a	8	2	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R444a	9	89	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R457a	10	193	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R457c	11	279	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R459a	12	461	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R465a	13	143	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R408a	14	2430	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R454b	15	466[6]	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R454c	16	166[5]	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R448a	17	1273	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R450a	18	604[6]	≤ ± 10 % [FS]	≤ ± 3 % [FS]
R454a	19	237	≤ ± 10 % [FS]	≤ ± 3 % [FS]

Note[2] Data Source IPCC Intergovernmental Panel on Climate Change Status Report AR5 2013/2014
Note[3] Not included in IPCC AR5
Note[4] Data Source IPCC AR4 100-year GWP
Note[5] Data Source IPCC AR6 100-year GWP
Note[6] Data Source IPCC AR4 (Regulatory)

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