

MADE IN GERMANY

TRANSMITTER^{EVO} PRO

Infrared gas sensor

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

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

General features

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:	Cable diameter without adapter plug max. 1.5 mm ² (single wire) or 1 mm ² (strand). Cable diameter with adapter max. 2.5 mm ²

Measuring response*

Response time (t ₉₀):	appr. 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 3
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 % [FS] 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, T_a = 22 °C, flow = 0.7 l / min for dry (not condensing) and clean sample gas.
Stated values exclude calibration gas tolerance.

Broadband Pro Freon table

Broadband Freon Table : Article code B3-712205-10801

Freon type	Freon index:	Linearity error (3 σ) With R134a span calibration	Linearity error (3 σ) With target gas calibration
R22	0	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R23	1	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R32	2	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R123	3	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R125	4	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R404a	5	$\leq \pm 12$ % [FS]	$\leq \pm 3$ % [FS]
R407a	6	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R407c	7	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R407f	8	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R449a	9	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R410a	10	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R452a	11	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R454b	12	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R455a	13	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R507	14	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R513a	15	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R515b	16	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R1233zd	17	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]
R1234yf	18	$\leq \pm 15$ % [FS]	$\leq \pm 3$ % [FS]
R1234ze	19	$\leq \pm 10$ % [FS]	$\leq \pm 3$ % [FS]

* gas table can vary

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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.