

# Micro-Hybrid gas sensor for reliable and accurate CO<sub>2</sub> measurement in incubators

## Incubator IR CO<sub>2</sub> sensor

### ADVANTAGES

- IR dual beam technology
- Temperature and pressure compensated
- Heat-sterilizable up to 190° C
- Long lifetime
- Humidity correction

This **IR CO<sub>2</sub> sensor** has been specially optimized for the measurement of 5 Vol.-% CO<sub>2</sub> in cell incubators to manage ideal cell and tissue growth.

The sensor can be placed directly in the incubation chamber to measure the exact cell experienced environment. It determines the CO<sub>2</sub> concentration based on its IR radiation.



### TECHNICAL SPECIFICATION

#### GENERAL

Measuring gas	CO <sub>2</sub>
Measurement range	0 – 20 Vol.-%
Gas supply	Diffusion
Warm up time	< 1 minute (start-up) < 15 minutes (full spec)

#### MEASUREMENT

Accuracy <sup>1</sup>	± 0,2 Vol.-% ± 2 % of reading
Response time (t <sub>90</sub> )	≤ 30 s
Digital resolution	0,001 Vol.-%
Temperature dependence <sup>2</sup>	≤ ± 0,1 Vol.-%
Pressure dependence <sup>3</sup>	≤ ± 0,05 Vol.-%
Long term stability <sup>4</sup>	≤ ± 0,2 Vol.-% at 5 Vol.-% / year
Humidity correction	0 ... 200 hPa H <sub>2</sub> O

<sup>1</sup> At 37° C, 1013 hPa, dry test gas, excludes calibration gas tolerance of ± 1 %

<sup>2</sup> With compensation at 1 Vol.-% ... 20 Vol.-% CO<sub>2</sub> and 20° C ... 60° C, 1013 hPa

<sup>3</sup> With compensation at 600 – 1200 hPa, 37° C and 5 Vol.-% CO<sub>2</sub>

<sup>4</sup> Stability at 37° C, without heat sterilization

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## TECHNICAL SPECIFICATION

### ELECTRICAL

Supply voltage	12 – 24 V <sub>DC</sub>
Power consumption	< 2 W
Digital output	RS232, Micro-Hybrid industrial protocol
Analogue output	4 – 20 mA

### CLIMATIC CONDITIONS

Operating temperature	0° C ... 60° C
Maximum temperature for heat sterilization (only sensor) <sup>5</sup>	190° C
Humidity	< 100 % relative humidity (rH), not condensing
Storage temperature	-25° C ... 85° C

<sup>5</sup> Maximum humidity ≤ 1 % rH, ≥ 85° C auto standby – no CO<sub>2</sub> measurement

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Visit us at [www.micro-hybrid.de](http://www.micro-hybrid.de) or call us at +49 36601 5920

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**GAS  
SENSORS**

