

Carbon Dioxide (CO₂) Gas Analyzer

Micro-cavity enhanced absorption spectroscopy for fast, low-volume CO₂ measurements in a compact, low-power instrument.

1 – 1000

PPM RANGE

500 ms

RESPONSE TIME

< 1 mL

CELL VOLUME

800 g

WEIGHT · 10 W

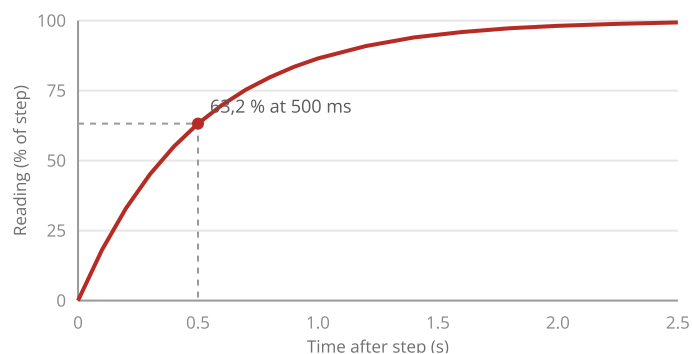
BUILT FOR SMALL SAMPLES

At the heart of the analyzer, a unique micro-cavity enhances gas absorption while dramatically reducing the required sample volume — fast measurements in an exceptionally compact, lightweight instrument.

- Precision **1,5 ppm at 1 s**, 0,3 ppm at 1 min, detection limit 1 ppm
- Response time **500 ms (1/e)** at 100 sccm, 2 Hz data rate
- Cell volume **below 1 mL** — minimal sample consumption
- **10 W** from 24 VDC, optional low-power idle mode
- **No warm-up time**; long-term stability limits recalibration

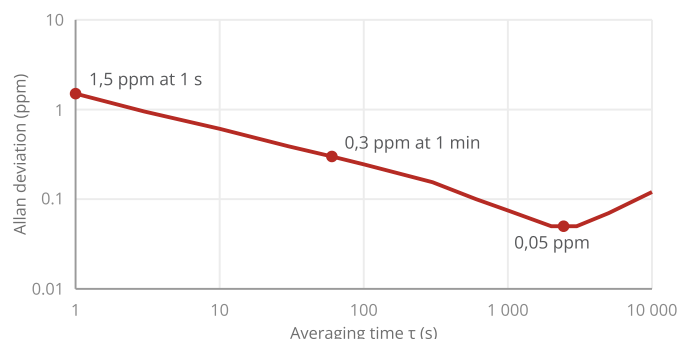


RESPONSE AND PRECISION



Step response at 100 sccm, 1/e time constant of 500 ms.

Step response is illustrative, derived from the specified time constant. Allan deviation is preliminary measured data and not a guaranteed specification.



Allan deviation: averaging improves precision to about 0,05 ppm, drift dominates beyond.

CO₂ MEASUREMENT

Measurement technology	Micro-cavity enhanced abs. spectroscopy
Measurement range	1–1000 ppm
Precision (1 s)	1,5 ppm
Precision (1 min)	0,3 ppm
Limit of detection	1 ppm
Data rate	2 Hz

GAS HANDLING

Cell volume	< 1 mL
Response time (1/e)	500 ms at 100 sccm
Gas connections	3 mm push-in connectors

Rows marked **OPT** are factory options, specified at order.

READY TO MEASURE

No warm-up time is required, so accurate measurements start immediately after power-up. Excellent long-term stability minimises recalibration, reducing maintenance and simplifying field operation.

FRONT PANEL & OEM VERSION



INTERFACES & ELECTRICAL

Power input	24 VDC – 1 A
Power consumption	10 W
OPT Low-power idle mode	Factory option
Communication	Ethernet, serial (other upon request)

MECHANICAL

Dimensions	21 × 29 × 7 cm
Weight	800 g

ENVIRONMENTAL

Operating temperature	0 to 45 °C
Ambient humidity	0–95 % RH, non-condensing

CUSTOM & OEM

An OEM version is available as a board-level unit with the same measurement core, ready for integration; gas connections, interfaces, housings and measurement ranges can be adapted.

Need a configuration for your application? Send us your target specification.

Gas in	3 mm push-in
Gas out	3 mm push-in
Status indicators	Power · measuring · fault
Serial link	USB-C
Network	Ethernet, RJ45
Power	Circular connector, 24 VDC

Product performance is continuously being improved. Specifications are subject to change as the technology evolves.