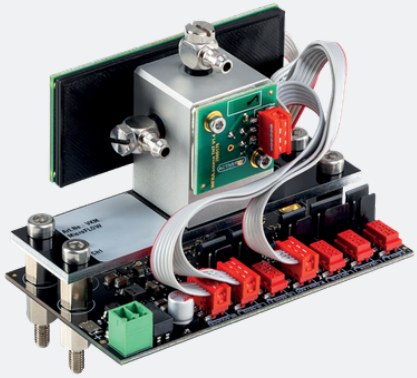
PRODUCT DATA SHEET

MicroFLOW performance CO2.50 Vol.-%



CO_2

Art. no. 7702.02-A.10

Inline NDIR gas sensor for carbon dioxide measurement up to 50 Vol.-%

MicroFLOW sensors are highly accurate and reliable, with 10-point linearization for optimal performance. They provide long-term stability and precision for the intended measuring range.

These sensors are easy to use, ready for measurement, and can be quickly integrated into the application. The IR emitter ensures optimum signal quality. The integrated pressure sensor and sample cell block reduce the sensor module's space requirement and prevent errors caused by leakage.

The smart sensor design enables easy replacement of individual components. Low power consumption allows for use in battery-powered devices. A wide operational pressure range extends the range of applications, such as systems requiring negative pressure. The software is available to download for free, and no special programming effort is required.

Applications

- Biotechnology
- Brewing industry
- Food technology
- Medical diagnostics
- Medical and biomedical research
- Measurement of exhaust gases
- Plant cultivation
- TOC

Product benefits

- Minimized deviation of pressure value and barometric changes (< 0.1 % / 10 hPa)
- Widely used industrial interfaces available
- Low maintenance due to high-quality materials
- Suitable for use in battery-powered devices
- Gas temperature in the measuring system can be monitored
- Maintenance and cleaning possible with little effort

Features

- 10-point linearization
- Pressure compensation by integrated pressure sensor
- Temperature compensation
- Digital interfaces RS232/CAN-Bus
- Robust design with high chemical resistance
- Measurement of gas temperature possible
- Modular design

PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved

Technical data

General

Technical parameter	Value	Unit
Order number	7702.02-A.10	
Measurement principle	NDIR	
Sample cell length	2	mm
Estimated lifetime of IR source	40 000	h
Gas flow rate	0.1 ... 3	l/min
Dimensions	88 x 90 x 60	mm
Weight	160	g
Tube connection	6/4 mm tube	
Electrical connection type for power supply	2-pin, 3.5 mm	
Connection type for communication	3 pol. RS232 / 3 pol. CAN-Bus (2.54 mm)	

Measurement [1]

Technical parameter	Value	Unit
Measurement range	0 ... 50	Vol.-%
Measuring gas	Carbon dioxide	
Warm up time [2]	< 10	min
Response time (t90)	< 2	s
Detection limit (3σ) [3]	< 0.01	% FS
Digital resolution	0.001	Vol.-%
Linearity error	< 0.5	% FS

PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved

GAS SENSORS

MH SHOP
shop.microhybrid.com

Online shop for IR components and sensors. Filter products simply by selecting the desired properties and request your quotation.

Measurement (continued)

Technical parameter	Value	Unit
Repeatability	< 0.25	% FS
Long-term stability (zero)	< 0.05	% FS/ month
Long-term stability (span)	< 0.25	% FS/ month
Temperature influence (zero)	< 0.02	% FS/ 10K
Temperature influence (span) [4]	< 0.5	% FS/ 10K
Position influence	< 0.5	% FS/ 180 °
Pressure influence	< 0.15	% FS/ 10hPa

Electrical

Technical parameter	Value	Unit
Operation voltage	9 ... 30	V DC
Operation current max.	110 mA @ 9 V, 33 mA @ 30 V	
Inrush current	220	mA
Nominal power consumption	1	W
Digital output signal	RS232 or CAN-Bus	
Output format CAN	MARS/ CAN-Bus	
Output format RS232	ASCII	
Data rate CAN max.	10	ms
Data rate RS232 max.	100	ms

PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved

GAS SENSORS
MH SHOP
shop.microhybrid.com
Online shop for IR components and sensors. Filter products simply by selecting the desired properties and request your quotation.

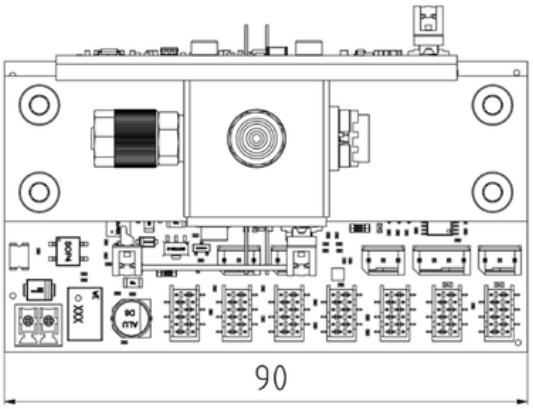
Operating environment

Technical parameter	Value	Unit
Operation temperature [5]	5 ... 45	°C
Storage temperature	-20 ... 60	°C
Air pressure	300 ... 1200	hPa
Ambient humidity	0 ... 95 % relative humidity (non condensing	

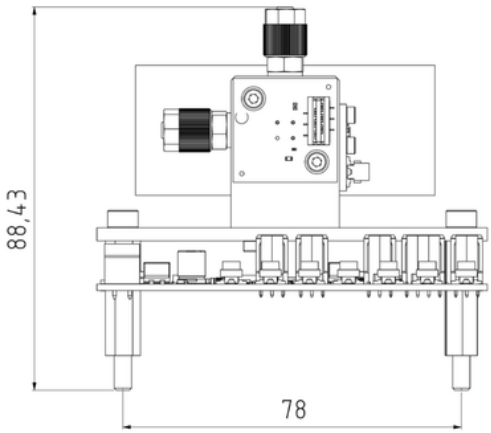
1 Zero gas for measurements: nitrogen; related to P_a = 1020 hPa; T_a = 25 °C; flow = 1 l/min
2 Full specification, depends on environmental conditions
3 At zero point
4 With span temperature compensation
5 Stable climatic conditions are recommended, please check dewpoint considerations

Mechanical drawings

Top view



Front view



All geometrical dimensions in mm

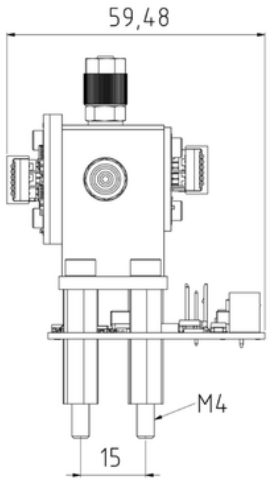
PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved

GAS SENSORS

MH SHOP
shop.microhybrid.com

Online shop for IR components and sensors. Filter products simply by selecting the desired properties and request your quotation.

Side view



All geometrical dimensions in mm

Product overview

Article number	Product name	Digital output signal	Measurement range
7702.08-A.10	MicroFLOW performance CO2.5000ppm	CAN-Bus or RS232	0 ... 5000 ppm
7715.05-A.10	MicroFLOW performance CH4.select.10 Vol.-%	CAN-Bus or RS232	0 ... 10 Vol.-%
7703.05-A.10	MicroFLOW performance.CH4.10 Vol.-%	CAN-Bus or RS232	0 ... 10 Vol.-%
7701.02-A.10	MicroFLOW performance CO.50 Vol.-%	CAN-Bus or RS232	0 ... 50 Vol.-%
7702.02-A.10	**MicroFLOW performance CO2.50 Vol.-%**	**CAN-Bus or RS232**	**0 ... 50 Vol.-%**
7702.01-A.10	MicroFLOW performance.CO2.100 Vol.-%	CAN-Bus or RS232	0 ... 100 Vol.-%
7714.01-A.10	MicroFLOW performance SF6.100 Vol.-%	CAN-Bus or RS232	0 ... 100 Vol.-%

PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved

Wi.Tec inside

- Integrated pressure sensor µP.sens
- Software MARS light
- Optimized for sample gas and gas concentration

Disclaimer

All rights reserved. All information in this data sheet is based on latest knowledge, results of practical experience and tests carried out. Earlier specifications are hereby invalid. All specifications – technical included – are subject to change without notice. It is the customer's responsibility to ensure that the performance of the product is suitable for customer's specific application. No liability is accepted for indirect damage, in particular for the use or inability to use the product. Any liability we may have is limited to the value of the product itself.

PRODUCT DATA SHEET › gas sensors › MicroFLOW performance CO2.50 Vol.-% | © Micro-Hybrid-Electronic GmbH | 2026-10 | All rights reserved