new

Digital carbon dioxide sensor FYAD 00-VCO2B200. Range up to 20 % CO_2, with digital ALMEMO® plug. Integrated temperature and atmospheric pressure sensor for automatic compensation.

- Digital carbon dioxide sensor for concentrations in the percentage range.
- Applications in biotechnology, e.g. in bio-incubators and in the food industry, e.g. in cold stores for the storage and transportation of fruit and vegetables.
- Robust housing for operation in a wide temperature and humidity range.
- Protection of the sensor against contamination with replaceable filter.
- All calibration and sensor data are stored in the carbon dioxide sensor.
- Temperature compensation of the sensor element with the built-in temperature sensor.
- The relevant ambient parameter air pressure is measured with the same sensor. Automatic air pressure compensation of the air pressure-dependent carbon dioxide concentration with digital air pressure sensor, built into the ALMEMO® connector.
- Long-term measurements with ALMEMO® data logger in continuous operation; no sleep mode possible.
- 4 measuring channels: Carbon dioxide concentration (compensated with the measured temperature and the measured air pressure), carbon dioxide concentration not compensated (for own compensation in the measuring software with external measured variables temperature and air pressure), temperature, air pressure.

Technical Data

Digital carbon dioxide (CO_2) sensor (including A/D converter)	
Measuring principle	non-dispersive infrared sensor (NDIR) based on silicon, measurement at two wavelengths (ratiometric)
Measuring range	0 … 20 % CO_2
Accuracy at 5 % CO_2 at 0 … 8 % CO_2 at 8 … 20 % CO_2	incl. non-linearity, repeatability ±0.1 % CO_2 ±0.2 % CO_2 ±0.4 % CO_2
Nominal conditions	25 °C, 1013 mbar
Temperature dependence at 5 % CO_2 at 0 … 20 % CO_2	Measuring range CO_2 compensated ±0.05 % CO_2 in range 0 … 50 °C ±0.045 % of meas. value / °C in range -40 … 60 °C
Air pressure dependence at 5 % CO_2 at 0 … 20 % CO_2	Measuring range CO_2 compensated ±0.05 % CO_2 in range 700 … 1100 mbar ±0.015 % of meas. value / mbar in range 500 … 1100 mbar
Response time t90	< 1 min with standard filter
Warm-up time	4 min after switching on for full accuracy
Measuring interval	2 s (current value)
Operating conditions	-40 … 60 °C, 500 … 1100 mbar compensated (max. 1.5 bar), 0 to 95 % r.H., non-condensing
Materials Sensor housing Filter	 PBT plastic PTFE membrane, PBT plastic grid
Dimensions	Diameter 25 mm Total length of the sensor: 84 mm without plug
Sensor connection	Built-in connector, digital output
Power supply	12 V DC, max. 0.5 W via ALMEMO® plug
ALMEMO® plug-in connection cable, 1.5 m cable,	with digital ALMEMO® plug
Digital atmospheric pressure sensor (integrated in ALMEMO® plug)	
Measuring range	700 … 1100 mbar
Accuracy	± 2.5 mbar (23 °C ± 5 K)
Digital ALMEMO® plug	
Refresh rate	2 sec for all channels
Supply voltage	12 V DC from the ALMEMO® device
Current consumption	typ. 40 mA, starting current typ. 120 mA

Type (including factory test certificate)	**Order no.**
Digital carbon dioxide sensor up to 20 % CO_2, integrated temperature sensor, plug connection, incl. ALMEMO® adapter cable with digital ALMEMO® plug, digital atmospheric pressure sensor integrated	**FYAD00VCO2B200**

Accredited calibration KY9621D, carbon dioxide concentration, for digital sensor FYAD00VCO2B200, see chapter „Calibration Certificates“. The accredited calibration meets all the requirements regarding test resources laid down in DIN EN ISO/IEC 17025.