



CONTROS
Systems & Solutions GmbH



HydroC™ CO₂

Carbon Dioxide Sensor

CONTROS' HydroC™ CO₂ sensor is a unique underwater carbon dioxide sensor for in-situ and online measurements of dissolved CO₂.

The HydroC™ CO₂ is perfect for profiling, AUVs and rosettes or for long-term deployment on buoys and moorings. Applications include: air-sea gas exchange, ocean acidification, limnology, climate studies, agriculture/fish farming, fresh water control and carbon capture and storage (CCS-MMV).

ADVANTAGES

- High accuracy within 1%
- Very robust, can be used in water depths up to 6,000 metres
- Fast response time, first signal derived in under 7 seconds
- User-friendly
- Versatile, easy integration with almost every oceanographic measurement system and platform
- Long-term measurement stability
- 'Plug & Play' principle; all required cables, connectors and software are included

HOW IT WORKS

Dissolved CO₂ molecules diffuse through a patented thin-film composite membrane into the detector chamber, where their number is determined by means of IR absorption spectrometry. Concentration-dependent IR light intensities are converted into output signals.



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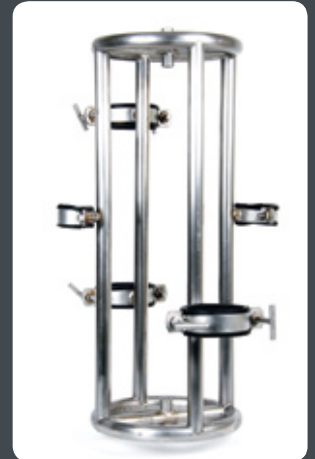
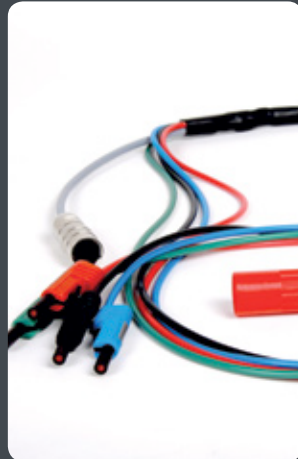


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FAST FACTS

ACCESSORIES

CONTROS provides all kinds of cables for laboratory and field work, along with subsea power options and a variety of turn-key solutions for underwater sensing. Furthermore CONTROS has broad experience in building customer-specific winches, mountings, and cages for every type of application.



DETECTOR	High-precision optical analyzing NDIR system
MEASURING RANGE	Standard calibration is 200 – 1000 ppm (other ranges available)
WEIGHT	4.7 kg (2.2 kg in water)
DIMENSIONS	90 d x 376 mm
OPERATIONAL DEPTH	2,000; 4,000; 6,000 m
TEMPERATURE RANGE	+3°C to +30°C (Arctic version: -2°C to +15°C)
RESPONSE TIME	First signal > 7s (with external pump)
RESOLUTION	< 1 ppm
ACCURACY	±1% reading (as the total sum of all the errors)
CONNECTOR	Connector SUBCONN® MCBH8-M Titanium 8-pin • Others on request
POWER SUPPLY	Depending on water temp. approx. 300 mA (+ ~ 600 mA with big external pump) @ 12 V
DATA INTERFACE	RS-232C and RS-485; Data format ASCII NMEA-0183
SOFTWARE	Windows® Software DETECT™ incl. real time data visualization, setting of sensor parameters, download data from internal data logger • Sleep mode function

OPTIONS

- Analogue Output: 0 – 5 V
- Internal data logger
- External battery pack
- ROV and AUV installation packages
- Profiling and mooring frames
- CO₂ Flow Through Sensor for underway (FerryBox) and lab applications

CONTACT US

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