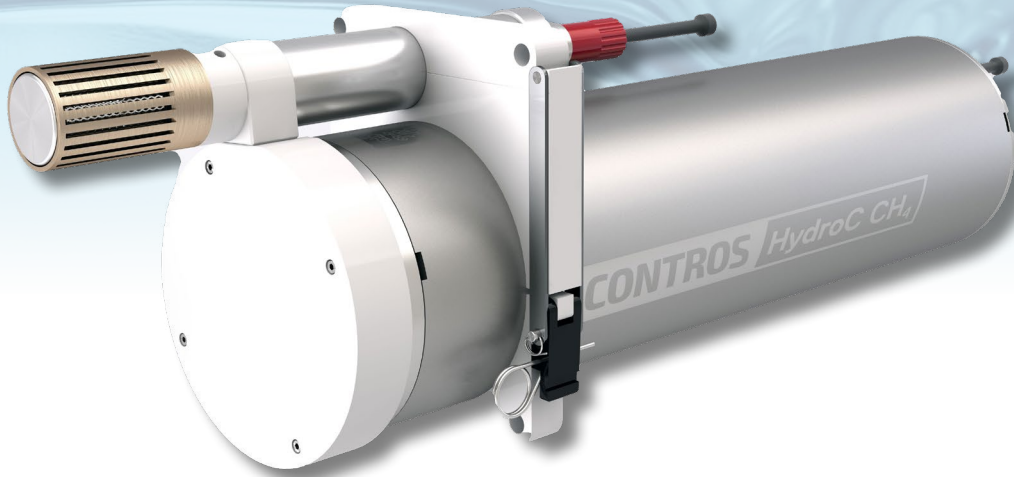


CONTROS HydroC™ CO₂



ACCURATE AND FAST UNDERWATER pCO₂ SENSOR

Critical CO₂ data captured on fixed and mobile platforms including ROVs and AUVs

The CONTROS HydroC™ CO₂ sensor is a unique and versatile underwater carbon dioxide sensor for in situ and online measurements of dissolved CO₂. The CONTROS HydroC™ CO₂ is designed to be used on different platforms with different deployment schemes providing complete flexibility for researchers seeking CO₂ measurement data in diverse locations.

INDIVIDUAL 'IN-SITU' CALIBRATION

All sensors are individually calibrated in a water tank which simulates the average deployment temperature. Here, a sophisticated reference detector is used to verify the pCO₂ concentrations in the calibration tank. The reference sensor is recalibrated with secondary high quality standards on a daily basis, which ensures that CONTROS HydroC™ pCO₂ sensors achieve unmatched short and long term accuracy.

OPERATING PRINCIPLE

Dissolved CO₂ molecules diffuse through the newly designed custom made thin film TOUGH membrane into the internal gas circuit leading to a detector chamber, where the partial pressure of CO₂ is determined by means of IR absorption spectrometry. Concentration dependent IR light intensities are converted into the output signal from calibration coefficients stored in the sensor's firmware and data from additional sensors within the gas circuit.

ACCESSORIES

A wide range of available accessories ensures that CONTROS HydroC™ CO₂ sensors can be adapted to meet any requirements. Optional pumps with different flow heads enable very fast response times and an antifouling head can be specified for conditions with significant biofouling challenges. The internal data logger can be specified in conjunction with the sensor's flexible power management features and the CONTROS HydroB® battery packs for long-term, unattended deployments.

SOFTWARE

CONTROS DETECT® includes real time data visualization, setting of sensor parameters (e.g. measuring intervals, internal data logger settings, sleep mode function) and is supported by a mission planning tool and data download from the internal logger.

HARDWARE REQUIREMENTS

- Windows 7 32 Bit or higher
- 200 MB free disk space
- Dual Core CPU with 2GB RAM

OPTIONS

- Available temperature ranges for reduced power consumption:
 - 2°C to +30°C
 - 2°C to +20°C
 - 2°C to +8°C
- Measuring range 100-6000 µatm
- Analog output: 0 V - 5 V
- RS-485 data interface
- Internal data logger
- External battery packs
- ROV and AUV installation packages
- Profiling and mooring frames
- CO₂ flow through sensor for underway (FerryBox) and lab applications
- External pump (SBE-5T or SBE-5M)
- Anti-fouling head

CONTROS HydroC™ CO₂

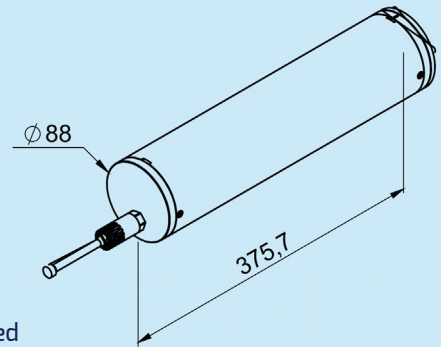
APPLICATIONS

The CONTROS HydroC™ CO₂ is trusted to deliver precise readings for diverse applications, including:

- Unmanned platforms including ROV and AUV
- Long-term deployments on seabed observatories buoys and moorings
- Profiling applications using water sampling rosettes.

FEATURES

- New robust TOUGH membrane
- Improved gas cycle management for reliable long-term deployments
- Deep sea capability, depth rating up to 6,000 m
- Very fast response time
- User-friendly operation
- Versatile – easy integration into almost every oceanographic measurement system and platform
- 'Plug & Play' principle; all required cables, connectors and software are included



TECHNICAL SPECIFICATIONS

Detector	High-precision optical analyzing NDIR system	Resolution	< 1 µatm
Measuring range ¹	200 - 1,000 µatm	Initial accuracy	±0.5 % of reading
Weight		Connector ⁴	SubConn MCBH8-M Titanium 8-pin
- in water	2.2 kg	Supply voltage	additional 8 W
- in air	4.5kg	Data interface	11 V - 30 V
Dimensions ²	89 mm x 380 mm	Power consumption ⁵	Approx. 300 mA @ 12 V
Depth rating	2,000 to 6,000 m (profiling) versions available	- with SBE-5T ext. pump	an additional 8 W
Temperature range ³	-2°C to +35°C	Data interface	RS-232C and RS485
Response time	t63 ~ 60 s (with SBE-5T)	Data format	ASCII, NMEA protocol

1. Other ranges on request 2. Without connector 3. Other ranges on request, 4. Other connectors on request 5. Approx. values for standard configuration. Specifications subject to change without notice.

CONTACT -4H-JENA

Get in touch to find out how CONTROS HydroC™ CO₂ sensors can secure your ability to measure and report dependable Carbon Dioxide data as part of your workflow.

-4H-JENA engineering GmbH
Muehlenstr. 126
07745 Jena
Germany

Tel: +49 (0) 3641-2887-0
Fax: +49 (0) 3641-2887-26
E-Mail: info@4h-jena.de
www.4h-jena.de



CONTACT YOUR LOCAL REPRESENTATIVE

The CONTROS HydroC CO₂ enables climate researchers to contribute towards meeting the United Nations Sustainable Development Goals.

