



CONTROS
Systems & Solutions GmbH



HydroC™ Plus CH₄

Methane Sensor

The CONTROS HydroC™ Plus sensor is a unique underwater methane sensor for in-situ and online measurements of CH₄ partial pressure ($p\text{CH}_4$).

The versatile HydroC™ Plus CH₄ is a perfect solution for the detection of background CH₄ concentrations and for long-term monitoring.

Fields of application include: climate studies, methane hydrate studies, limnology, fresh water control, aquaculture/fish farming.

ADVANTAGES

- High accuracy
- Low detection limit (background concentration)
- Large measuring range
- Optimal long-term stability
- Very robust, can be used in water depths up to 3,000 meters
- User-friendly
- 'Plug & Play' principle; all required cables, connectors and software are included

HOW IT WORKS

Dissolved CH₄ molecules diffuse through a specialized thin film membrane into the internal gas circuit leading to a detector chamber, where the CH₄ concentration is determined by means of Tunable Diode Laser Absorption Spectroscopy (TDLAS). Concentration dependent laser light intensities are converted into the output signal from calibration coefficients stored in firmware and data from additional sensors within the gas circuit.



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ACCESSORIES

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



FAST FACTS

DETECTOR	Tunable Diode Laser Absorption Spectroscopy (TDLAS)
MEASURING RANGE	0 µatm – 40,000 µatm
DETECTION LIMIT	< 1 µatm
WEIGHT	5.5 kg in water, 12.5 kg in air
DIMENSIONS	136 x 490 mm
OPERATIONAL DEPTH	3,000 m
TEMPERATURE RANGE	+2 – +30° C
RESOLUTION	< 0.01 µatm
ACCURACY	±2 µatm or ±3 % whichever is greater
CONNECTOR	Connector SUBCONN MCBH-M Titanium 8-pin (other connectors on request)
SUPPLY VOLTAGE	12 V – 30 V
POWER CONSUMPTION	Sensor approx. 690 mA @ 12 V (+ approx. 8 W with SBE-5T)
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 (e.g. measuring intervals, internal data logger settings, sleep mode function) supported by a mission planning tool; data download from internal data logger

OPTIONS

- Analog output: 0 – 5 V
- Internal data logger
- External battery packs
- ROV and AUV installation packages
- Profiling and mooring frames
- External pump (SBE-5T or SBE-5M)
- Easy deployment together with a HydroFlash™ O₂
- Arctic version available on request

All values above were determined at 20 °C water temperature under standard calibration conditions. Specifications subject to change without notice. ©2014 CONTROS Systems & Solutions GmbH, Inc. All rights reserved. Rev. January 2015.

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