



HydroC™ CH₄

Hydrocarbon and Methane Sensor

The CONTROS HydroC™ CH₄ sensor is a unique underwater hydrocarbon and methane sensor for in-situ and online measurements of dissolved CH₄.

The versatile HydroC™ CH₄ is especially suited for platform installations (e.g. ROVs or AUVs) and long-term deployments (e.g. buoys and moorings).

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

ADVANTAGES

- High accuracy
- Very robust, can be used in water depths up to 6,000 meters
- User-friendly
- Versatile – easy integration with almost every oceanographic measurement system and platform
- Long-term deployment capability
- 'Plug & Play' principle; all required cables, connectors and software are included

HOW IT WORKS

Dissolved CH₄ molecules diffuse through a specialized thin film composite membrane into the internal gas circuit leading to a detector chamber, where the CH₄ is determined by means of IR absorption spectrometry. Concentration dependent IR light intensities are converted into the output signal from calibration coefficients stored in firmware and data from additional sensors within the gas circuit.



HydroC™ CH₄



CONTROS
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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 turn-key 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	High-precision optical analyzing NDIR system
MEASURING RANGE	Standard calibration is 80 nmol/L - 5 µmol/L (other ranges on request)
WEIGHT	2.2 kg in water, 4.5 kg in air
DIMENSIONS	90 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)
RESOLUTION	< 10 nmol/L
ACCURACY	±3% of reading or ±50 nmol/L, whichever is greater
CONNECTOR	Connector SUBCONN® MCBH8-M Titanium 8-pin (other connectors on request)
POWER SUPPLY	Sensor approx. 420 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 logger

OPTIONS

- Analog output: 0 – 5 V
- Internal data logger
- External battery packs
- ROV and AUV installation packages
- Profiling and mooring frames
- CH₄ flow through sensor for underway (FerryBox) and lab applications
- External pump (SBE-5T or SBE-5M)
- Easy deployment together with a HydroFlash™ O₂

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. February 2014.

CONTACT US

CONTROS Systems & Solutions GmbH
Wischhofstr. 1-3 | Bld. 2 | 24148 Kiel | Germany
p: +49 [0] 4 31 26 09 59 00 | f: +49 [0] 4 31 26 09 59 01
e: contact@contros.eu | www.contros.eu