



# HydroC™ / CH<sub>4</sub> Methane Sensor

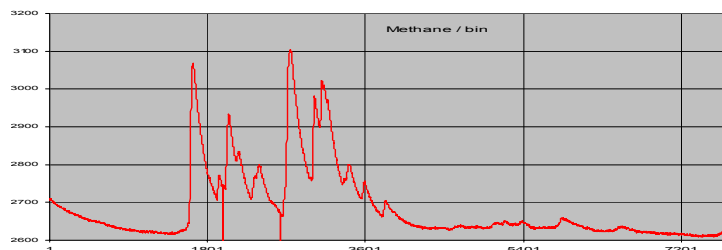


Methane is one of the most important gases in our environment. Indeed, in many areas of everyday life, the monitoring of methane is a necessity. CONTROS' HydroC™ is a unique underwater methane sensor solving the global problems of the in-situ measurements of CH<sub>4</sub>. Applications include offshore pipeline inspections, exploration of new oil and gas deposits, oceanographic applications and water & waste water treatment tasks.

|                    |  |
|--------------------|--|
| Detector           | Patented optical analysing NDIR system • Maintenance free  |
| Function principle | Hydrocarbon / methane diffuse out of the liquid through a special silicone membrane (patented) into the detector chamber. The adsorption of light and gas (hydrocarbon molecules) leads to change of intensity which is measured electronically and converted into an output signal. |
| Membrane           | Fast 2 µm membrane for shallow water < 1000m • 4 µm membranes up to 4000m • 10 µm HD membrane up to 6000m • anti fouling device on request:  |
| Oper. depth        | 2000 m titanium • 4000m titanium deep sea • 6000m deep sea extended rating   |
| Temperature        | Standard 0 .. +50 °C • Option – 5°C...+50°C for arctic applications.   |

|                 | “Shorty” Version   | “Long John” Version  |
|-----------------|--|--|
| Measuring range | 100 nmol/l .. 500 µmol/l (max. 100mmol/l)  | 30 nmol/l .. 50 µmol/l (min. <10nmol/l)  |
| Housing         | 90 d x 380 mm Titanium   | 90 d x 550 mm Titanium   |
| Resolution      | < 30 nmol/l  | < 3 nmol/l   |
| Response time   | 10s for the first signal, T <sub>66</sub> appr. 30s                                    | e.g. 2 times longer  |
| Weight          | 3.9 kg / 1.9 kg app. in air / water 2000m<br>5.6 kg / 3.2 kg app. in air / water 4000m | 5.3 kg / 2.4 kg app. in air / water 2000m<br>6.6 kg / 3.5 kg app. in air / water 4000m |

|                             |   |
|-----------------------------|---|
| Accuracy                    | ±3% reading • Noise level appr. ±3 nmol/l   |
| Calibration                 | Stored internally • Recalibration recommended every 12 months • Calibration units in %, ppm, µmol/l, µg/l or other on request.  |
| Zero adjust                 | Auto at power-on • smart zeroing • external with software or switch button  |
| Power supply                | 9 .. 36 VDC • 3W/6W without/with thermal stabilisation • 10W at startup   |
| Connector                   | Connector SUBCONN® MCBH8MTI 8-pin   |
| Analogue Output             | 0 .. 5 V / 10 V • 0/4 .. 20 mA • range can be user-configured   |
| Digital Output              | RS-232C • RS-485 max. 5000m • Long-Range-Modem max. 25 km   |
| Memory, Datalogger, Options | Option internal SmartDI Datalogger with 2 GB CompactFlash Memory with RS-232, RS-485 Output Binary and ASCII / NMEA-0183 Format • Extreme small and in-expensive Flow-trough system for underway / FerryBox and lab applications. |



HydroC™ methane measurements with the IfM-GEOMAR submarine JAGO inside a Blow-out at 57°33'N, 1°37'E



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