



HydroFlash™ O₂

Oxygen Optode

The CONTROS HydroFlash™ O₂ optode is a versatile shallow and deep-water oxygen sensor which can be used for autonomous deployments as well as integrated into sensor systems.

The HydroFlash™ O₂ is the perfect choice for a wide variety of deployment schemes and platforms including but not limited to AUVs, gliders, floats, rosettes, buoys, and moorings.

ADVANTAGES

- Highly efficient fluorescent dye embedded on a curved, solid substrate to enhance light yield
- Fast response time ($T_{63} < 3$ s) combined with high stability and accuracy
- Titanium housing with small dimensions
- Robust, can be used in water depths up to 6,000 meters
- Very low power consumption
- Versatile – easily integrated with every oceanographic measurement system and platform
- Programmable sleep mode extends battery life time during autonomous deployment
- Comprehensive software for programming, data download and visualization included
- Non-consumptive O₂ measurement

HOW IT WORKS

The advanced sensor is based on the principle of fluorescence quenching. Dissolved oxygen (O₂) molecules diffuse into a membrane in which a fluorescent dye is embedded. Oxygen is capable of quenching this fluorescence by transferring the excitation energy from the dye to the O₂ molecule. The more O₂ is present in the water, the smaller is the measured fluorescence signal.



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CONTROS
Systems & Solutions GmbH

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

MEASURING RANGE	0 - 200 %
WEIGHT	~ 140 g in water, 200 g in air
DIMENSIONS	23 x 211 mm
OPERATIONAL DEPTH	6,000 m
TEMPERATURE RANGE	-2 to +40 °C (other ranges on request)
RESPONSE TIME	T ₆₃ < 3 s
RESOLUTION	0.1 %
ACCURACY	± 1 %
MEMORY	2 GB
CONNECTOR	Connector SubConn MCBH-4M Titanium 4-pin (other connectors on request)
POWER SUPPLY	4.5 - 36 V
DATA INTERFACE	RS-232C; 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); data download from internal logger

OPTIONS

- Flow head
- Autonomous deployment possible with attachable battery
- ROV and AUV installation packages
- Profiling and mooring frames
- Easy deployments together with CO₂ and CH₄ sensors

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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

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