

# Operating Instructions Oxygen Sensor

## UMS Oxygen Sensor

### 1. Handling instructions

The heart of the oxygen sensor is the highly sensitive sensor tip.

When the sensor tip of the oxygen electrode is accidentally knocked, the membrane at the tip can be damaged. Constantly increasing display figures and overflow indicate a damaged membrane. In this case the sensor must be replaced.

### 2. Sensor storage

The oxygen sensor will be delivered in the calibration chamber. It is very important that the calibration chamber is always kept damp.

If you can not ensure checking the calibration chamber regularly or you do not own a calibration chamber store the sensor in another vessel filled with water. The sensor tip must be always kept in water.

### 3. Function of the sensor

The oxygen sensor functions according the Clark Principle. It measures the oxygen dissolved in the water. The oxygen diffuses through a membrane at the sensor tip and is reduced at the cathode. The electrons generated at the anode lead to a very low electric current, which is electronically monitored by the unit.

However, the current in the sensor is not only determined by the water's oxygen content, but also by the temperature of the water and the air pressure.

### 4. Connecting instructions

brown:	anode
blue:	cathode
black:	ntc
shield:	ntc

The sensor needs a polarization voltage of  $-0.7\text{ V}$  between anode and cathode. The current is proportional to the oxygen load.

Because of the low resistance of the ntc the maximum voltage shall not exceed 5V.

#### 4. Specifications

electrode	Pt-cathode, Ag-anode
dimensions	150 x 14 mm (1 x 2)
length sensor cable	2,0 m
sensor	approx. 125 g (including cable)
polarisation voltage	700 mV
polarisation time	5 min maximum ( 30 sec. 1 % )
sensor reaction time	approx. 30 s

#### Warranty and liability

We reserve the right of technical changes!

For damages resulting from improper use and / or loss of function of the device, we take no liability.

On the measuring system, we provide the legal guarantee of 12 months.

In case of warranty, please send back the sensor and measuring instrument with certificate.

UMS GmbH & Co. KG  
Oberdorfstr. 19  
97647 Willmars  
GERMANY  
Tel. +49 (0) 9779 850343  
Fax +49 (0) 9779 850344  
[info@ums-gmbh.de](mailto:info@ums-gmbh.de)  
[www.ums-gmbh.de](http://www.ums-gmbh.de)