

# DISSOLVED OXYGEN SENSOR COG-1

## CHARACTERISTICS

The dissolved oxygen sensor COG-1 is designed for periodical measurements of oxygen dissolved in water and in water solutions in laboratory and field measurements. The meter which co-operates with the probe must be prepared to convert electric signals from the probe. The probes are mainly used in measurements of contaminated water, sewage in industrial and municipal water treatment stations, and in water control stations, etc.

The COG-1 has epoxy body and Teflon membrane. The sensor works on the galvanic cell principle. It consists of silver cathode and zinc anode. The electrodes are placed in container with electrolyte separated from the measured solution by Teflon membrane, which is liquid-proof, but it lets the gas diffusion.

After immersing the probe in the water solution the dissolved oxygen gets to the electrolyte and is reduced on the cathode. At this same time on the anode a reaction zinc oxidising is observed.

The electric signal from the cell in constant temperature is directly proportional to the pressure of oxygen dissolved in water. Thanks to the temperature compensation the signal doesn't depend on the temperature.

## TECHNICAL DATA

Signal of the probe for solutions (in 20 °C)	
- in 100% O <sub>2</sub> saturation	20 mV
- in 0% O <sub>2</sub> saturation	0,1 mV
Time of response T <sub>90</sub> (90 % change of the signal in constant temperature)	< 30 s
Acceptable temperature of measured solution	0 – 40 °C
Minimal measured value	0,1 mg O <sub>2</sub> / l
Accuracy:	
- for temperature equal to calibration temperature	1 %
- for temperature ± 5 °C from calibration temperature	1 %
- for temperature ± 10 °C from calibration temperature	3 %
Body diameter	12,0 ± 0,5 mm
Body length	155 ± 5 mm
Minimal depth of immersing	20 mm
Body material	epoxy
Membrane material	Teflon
Cable length	1 m
Connector	BNC-50



**ELMETRON**® Sp. j.

41-814 Zabrze . Witosa 10 POLAND

41-815 tel. +48 32 / 2738106 fax +48 32 / 2738114

[www.elmetron.com.pl](http://www.elmetron.com.pl) e-mail: [info@elmetron.com.pl](mailto:info@elmetron.com.pl)