

MS08 H₂O₂

AMPEROMETRY

H₂O₂ • Temperature

Measurement of dissolved hydrogen peroxide

Hydrogen peroxide has many applications in various fields such as medicine and food industry that use it for disinfection and sterilization, but also in the manufacture of cosmetics, paper industry and especially in the water treatment. H₂O₂ helps to eliminate organic pollutants. However, it is also involved in the phenomena of corruptions and the generation of oxidizing species very aggressive for the body. The control of the dissolved H₂O₂ concentration is an important parameter to adapt water treatment, in particular for the oxidation of H₂S.

The accurate and reliable in-situ determination of this dissolved gas concentrations is possible with the MS08-H₂O₂ for online or portable measurements. The H₂O₂ micro-sensor allows fast measurement with very high local resolution. The MS08 multi-parameter system collects raw H₂O₂ informations and performs compensation calculations depending on the temperature of the sample.

Online and portable measurements

The MS08-H₂O₂ is designed for portable measurements (about 12 hours of battery life) and can also be connected to a 220 VAC power supply for continuous measurements.



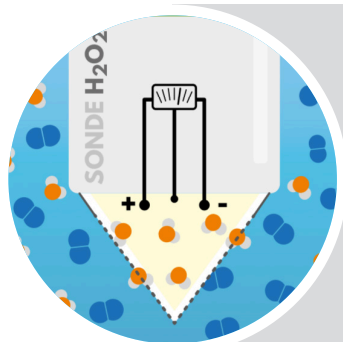
MS08 module -
suitable for H₂ - H₂S - H₂O₂ - O₂ and O₃ microsensors

Applications

- Monitoring and protection of wastewater networks
- Control of H₂O₂ reagent injections
- Industrial process control
- Staff protection before operations

Advantages

- Immersed measurement without sampling
- No interference with turbidity
- Automatic temperature and pH compensation
- Portable / laboratory and continuous measurements
- Direct display of measurement data
- Extracting data to computer via USB



The dissolved H₂O₂ passes through the gas permeable membrane. It diffuses to the working electrode where an electrochemical oxidation reaction takes place. The generated current, proportional to the hydrogen sulphide partial pressure, is measured by the probe.

This current, 0 to 400 picoamperes, is converted and operated by the MS08, the measurement data are compensated with temperature measurement. The diffusion rate of the gas in the electrolyte differs depending on the temperature, this parameter must be taken into account for precise measurements.

Technical specifications

Measurement principle		Amperometric measurement
Technology		Membrane micro-sensor with redox catalyst
Compensation	Temperature	Automatic Pt100, Pt1000
Electrical polarization		Automatic (< 20 min warm up time)
Measurement ranges	Type I	0,02 ... 10 %H ₂ O ₂
	Type S	other ranges on request
Response time		T 90% < 2 seconds
Measurement accuracy		1% of the measured value
H₂O₂ consumption		Negligible
pH range of use		from 0 to 11 pH
Material		H ₂ O ₂ probe - titanium / temperature sensor - plastic
Dimensions (d x L)		H ₂ O ₂ probe - 17 mm x 205 mm / temperature sensor - 12 mm x 120 mm
MS08 power supply		6 batteries Mignon / 220 VAC, charger supplied
Interface	Digital	Data display on integrated screen - H ₂ O ₂ / T° / residual current
	Analog	RS-232 / USB (option)
Acquisition of data		4 ... 20 mA on demand
Transmission / frequency		On computer, software not provided, free download type «HYPERTERMINAL»
Exploitation		String ASCII / 2 seconds
Micro-sensor H₂O₂ lifetime		Conversion by the software for access to Lotus 1-2-3 or Excel calculation software
Interferences on measurement		6 months in portable use, 10 in continuous (depends on stress by pH variations)
Maintenance		No interference in salt water up to 40 g/l of salt
Medium / sample temperature		No interference with presence of : carbon dioxide, oxygen, methane, hydrogen, ammonia, carbon monoxide, organic solvents (maximum 20% vol.), Acetic acid, sulphide of dimethyl, HCN and solid compounds
Température ambiente		Distilled water cleaning of the measuring diaphragm after every use
Température de stockage		0 ... + 30 °C (40 °C possible with a specific calibration on request)
		0 ... + 40 °C
		0 ... + 40 °C

