

MS08-H₂

AMPEROMETRY

H₂ • Temperature

Multi-parameter system

The determination of dissolved hydrogen concentrations is one of the most important parameters for the analysis and control of water in power plants, wastewater and process water. Due to its high chemical reactivity and rapid transfer concentrations between the liquid samples and the gas phase, the measurement of dissolved H₂ is difficult despite careful sampling.

Accurate and reliable in-situ determination of concentrations is possible with MS08-H₂ for fixed or portable measurements. The integrated micro-sensor H₂ allows fast measurement with very high resolution in colored, turbid and sediment waters. The MS08 system collects raw H₂ and temperature information to perform the compensation calculations and display the dissolved H₂ concentration in mg/l.

Online and portable measurements

The MS08-H₂ is designed for portable measurements (approximately 12 hours of battery life) and can also be connected to a 220VAC power outlet for continuous measurements.



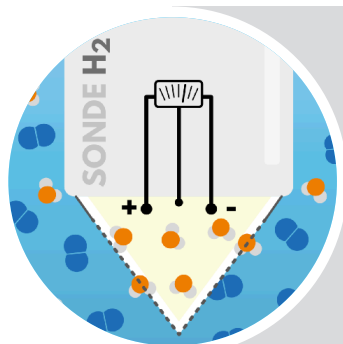
MS08 module -
suitable for H₂ - H₂S - H₂O₂ - O₂ and O₃ micro-sensors

Applications

- Monitoring and protection of wastewater networks
- Start-up control of power plants
- Industrial process control
- Environmental monitoring

Advantages

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



The dissolved hydrogen 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 concentration, is measured by the probe.

This current from 0 to 400 picoamperes is converted and operated by the MS08, the measurement data are compensated using the temperature measurement.

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	0,0002 ... 0,5 mg/l H ₂
	Type II	0,0004 ... 1 mg/l H ₂
	Type III	0,0008 ... 2 mg/l H ₂
	Type IV	0,001 ... 3 mg/l H ₂
Measurement resolution	Type I	0,1 µg/l H ₂
	Type IV	0,4 µg/l H ₂
Response time		T 90% 2 seconds
Measurement accuracy		2% of the measured value
H₂ consumption		Negligible
Housing material		H ₂ probe - titanium / temperature sensor - plastic
Dimensions (d x L)		H ₂ probe - 17 mm x 205 mm / temperature - 12 mm x 120 mm
MS08 power supply		6 batteries Mignon / 220 VAC, charger supplied
Interface	Digital	Data display on integrated screen - H ₂ / T° RS-232 / USB converter (option)
Acquisition of data		On computer, software not provided, free download type «HYPERTERMINAL»
Transmission / frequency		String ASCII / 2 seconds
Exploitation		Conversion by the software for access to Lotus 1-2-3 or Excel calculation software
Micro-sensor H₂ lifetime		6 months with portable use, 10 in continuous (depends on stress by pH variations)
Interferences on measurement		No interference in salt water up to 40 g/l of salt
H₂S sensibility		May lead to measurement errors and / or reduced life of the micro-sensor if permanent high concentration
Medium / sample temperature		0 ... + 30 °C (40 °C possible with a specific calibration on request)
Ambient temperature		0 ... + 40 °C
Storage temperature		0 ... + 40 °C

