CTD48 H_2S probe

Amperometry

Multi-parameter probe with protective cage

Applications

- Oceanographic, limnological and hydrological studies
- Monitoring the quality of aquaculture ponds
- Control of H_2S reagent injections for wastewater
- Industrial process control

Advantages

- Continuous measurements, in situ, no sampling
- Automatic compensation for pressure and temperature variations
- Autonomous version with battery and built-in memory
- Micro amperometric H_2S sensor, fast measurements, no interference with turbidity and low analyte consumption

All-in-one system H_2S, pH, T°, pressure

The monitoring of total dissolved sulphide concentrations (sum of H_2S, HS and S2-) is one of the most important parameters for the analysis of stagnant natural waters, wastewater and for oceanographic studies. Due to the high chemical reactivity of H_2S and the rapid transfer

of concentrations between liquid samples and the gas phase, the measurement of dissolved hydrogen sulphide is difficult despite careful sampling.

In situ, precise and reliable measurement of this parameter is possible with the CTD48 H_2S probe for water up to 100 meters deep or with 10

bar pressure. The integrated H_2S micro sensor is the biggest innovation of this system, it allows a fast measurement with a very high local resolution. The multi parameter system measure continuously the hydrogen sulphide concentration takin into account the temperature, pH and pressure variations of the medium influencing the measurement.

Online or autonomous

The CTD48 H_2S can be connected to a power supply and a computer for on-line measurements, or equipped with a battery pack and memory for hard-to-reach environments without power supply.

The dissolved H_2S passes through the gas permeable membrane. It diffuses to the working electrode where an electrochemical oxidation reaction operates. The current generated, proportional to the hydrogen sulphide concentration, is measured by the probe.

This current of 0 to 400 picoamperes is then converted and exploited by the electonics of the probe to be compensated according to the temperature and the pressure measured.

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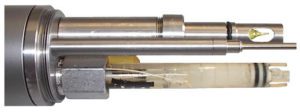
Technical specifications

Measurement technology	H_2S	Amperometric			
	Pressure	Piezo-resistive full bridge			
	Temperature	Pt 100			
	pH	Combined pH electrode			
Ranges, accuracy, resolution, T-response H_2S		10 µg/l...3 mg/l 50 µg/l...10 mg/l 500 µg/l...50 mg/l	2 % of value	< 0,1 %	< 1 s
Ranges, accuracy, resolution, T-response Pressure		0 ... 10 bars	+/- 0,1 % FS	0,002 % FS	150 ms
Ranges, accuracy, resolution, T-response Temperature		- 2 ... + 36°C	+/- 0,05 °C	0,0006 °C	1 s
Ranges, accuracy, resolution, T-response pH		0 ... 14 pH	+/- 0,02 pH	0,0002 pH	1 s
Probe housing Materials		Titanium		Titanium	
Dimensions (L x d)		Diameter 48 mm, length 400 mm		Diameter 48 mm, length 400 mm	
Weight		1,1 kg		1,3 kg	
Interface	Digital	RS232 serial		RS232 serial (battery version)	
		option FSK-telemetry		x	
Acquisition of data		Supplied SST-SDA software (PC-Windows)		Supplied SST-SDA software (PC-Windows)	
Power supply		9 ... 30 VDC		7 ... 16 VCC or internal battery 1 ... 5 VCC	
Consumption		12 mA for 12 VDC		External source: 15 mA, Li-battery: 20-35 mA	
Memory capacity		x		8 MB (approx. 350 000 measurement data)	
H_2S micro sensor lifetime		6 months in portable use, 10 in continuous (depends on the stress from pH variations)			
Calibration interval		24 months			
Warranty		24 months in the European Union (12 other countries) see details in quotation			
Temperature of the medium / sample		0,1 ... + 30 °C (40 °C possible with specific calibration on demand)			
Ambient temperature		0 ... + 40 °C			
Storage temperature		0 ... + 40 °C			



H_2S sensors, pH, temperature and pressure are installed under the protection cage.