

Free Chlorine

90S210001 · 90S210000



The chlorine measuring probe is an electrochemical sensor for measuring the concentration of chlorine in water. The measuring cell captures free chlorine from inorganic chlorine products (hypochlorite, chlorine gas, etc.). The measuring method has a reduced pH dependency, so that pH fluctuations only have a limited impact on the measurement signal. pH value increases only lead to an approximately 10 % reduction of the measuring signal per pH unit.

Benefits

- Stable signals even with fluctuating pH values
- Abrasive particles are tolerated
- Surfactants are partially tolerated

Applications

- Swimming pools, drinking water, seawater

Accessories

- Cable: Extension cables of 0.3 m, 2 m, 10 m, 25 m
- Controller: TriBox3, TriBox Mini, HS100
- Fittings: FlowCell

Technical Specifications

OPERATION AND SYSTEM CONFIGURATION

Measurement principle	Membrane-covered, potentiostatic amperometric 3-electrode system
Measuring method	Amperometry

AUXILIARY POWER

Electrical connection	8-pin M12 plug
Power supply	12...24 V (± 10 %)

INPUT PARAMETERS

Measured variables	Free chlorine with reduced pH dependency
Measuring ranges	0...2 mg/L, 0...20 mg/L
Cable specification	-
Temperature compensation	Automatic through integrated temperature sensor Pt100

OUTPUT SIZES

Output signal	RS-485, Modbus RTU
Accuracy	Measuring range 2 mg/L: at 0.4 mg/L & 1.6 ppm < 1 % Measuring range 20 mg/L: at 4 mg/L < 1 % at 16 mg/L W37 < 3 %
Data interface	RS-485, Modbus RTU

PERFORMANCE CHARACTERISTICS

Response time	T90: approx. 2 min
Running-in period	Approx. 2 h at initial operation
Drift	Approx. -1 % per month
Cross influences	Combined chlorine increases measured value
Calibration method	Determination of chlorine with DPD-1 method
Maintenance interval	typically once per week

PROCESS CONDITIONS

Process temperature	0...+45 °C (no ice crystals in the test water)
Process pressure	3 bar, no pressure shocks or vibrations
Flow rate	Approx. 15...30 L/h in FLC-3, minimum flow dependence exists
pH range	pH 4... pH 9, reduced pH dependence
Conductivity	10 µS/cm...50 mS/cm (sea water)

STRUCTURAL DESIGN

Dimensions (Ø x L)	25 mm x 205 mm
Materials	Micro-porous hydrophilic membrane, UPVC, stainless steel 1.4571