

Total Chlorine

90S230000



The sensor from the eCHEM sensor product range is an electrochemical sensor for measuring the chlorine concentration in water. The sensor measures the concentration of total chlorine in a sample created by adding inorganic chlorine products (e.g. chlorine gas, sodium hypochlorite solution, calcium hypochlori-

te solution). The measuring method has a reduced pH dependency, so that pH value fluctuations only have a minor influence on the measuring signal. By regularly replacing the electrolyte and the membrane cap, the sensor performance can be guaranteed and ensured over a longer period of time.

Benefits

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

Applications

- Swimming pools, drinking water, brine water, sea water

Accessories

- Cable: Extension cables of 0.3 m, 2 m, 10 m, 25 m
- Controller: TriBox 3, TriBox mini
- Fittings: FlowCell

Technical Specifications

Applications	Swimming pools, drinking water, brine water, sea water (15 % NaCl) Surfactants are partially tolerated.
Measurement technology	Membrane-covered, amperometric potentiostatic 3-electrode system with integrated electronics
Measurement principle	Amperometry
Parameters	Total chlorine (= free chlorine + bonded chlorine) reduced pH dependency
Chlorination agents	Anorganic chlorine compounds: NaOCl (=chlorine bleach), Ca(OCl) ₂ , chlorine gas, electrolytically generated chlorine

Product

Measurement range	0–2 mg/L, 0–20 mg/L
Accuracy	<p>Measuring range 2 mg/L: at 0.4 mg/L <2 % at 1.6 mg/L <2 %</p> <p>Measuring range 20 mg/L: at 4 mg/L <1 % at 16 mg/L <3 %</p> <p>After calibration under repeatability conditions (25 °C, pH 7.2 in drinking water) from full scale</p>
Resolution	<p>Measuring range 2 mg/L: 0.001 mg/L</p> <p>Measuring range 20 mg/L: 0.01 mg/L</p>
Response time	T ₉₀ : approx. 3 min. (brine water approx. 5 min.)
Running-in period	Approx. 2 hours for initial start-up
Drift	<p>Approx. –1 % per month</p> <p>under repeatability conditions (25 °C, pH 7.2 in drinking water)</p>
Temperature compensation	Automatically, by an integrated temperature sensor. Sudden temperature changes must be avoided
pH-range	pH4–pH12, reduced dependence on pH-value
Conductivity	10–200 µS/cm (brine)
Zero-point adjustment	Not necessary
Slope calibration	Directly with the sensor, by means of analytical chlorine determination, DPD-4-method (DPD-1 + DPD-3)
Cross interferences	<p>ClO₂: factor 1; O₃: factor 1.3</p> <p>Corrosion inhibitors can lead to measuring errors.</p> <p>Stabilizers for water hardness can lead to measuring errors.</p>
Absence of disinfectant	Max. 24 h
Maintenance interval	<p>Regular control of the measuring signal, min. once a week</p> <p>Depending on the water quality, it is recommended to exchange</p> <p>Membrane cap: once per year</p> <p>Elektrolyte: once per year</p>
Interface	RS-485, Modbus RTU
Power supply	<p>9–30 VDC; ~ 56–20 mA</p> <p>electronics are galvanically isolated completely; digital internal data processing</p>
Connection	8-pol. M12-plug
Material	Microporous hydrophilic membrane, PVC-U, PEEK, stainless steel 1.4571
Dimension (L x Ø)	Approx. 205 mm x 25 mm

Storage	Sensor: dry and without electrolyte no limit at +5 °C to +40 °C Elektrolyte: in original bottle protected from sunlight at +5 °C to +35 °C min. 1 year or until the specified EXP-Date Membrane cap: in original packing no limit at +5 °C to +40 °C (used membrane caps cannot be stored)
Transport	+5 °C to +50 °C (sensor, elektrolyte, membrane cap)
Temperature	Measuring Water: 0 °C to +45 °C (no ice crystals in the measuring water) Ambient: 0 °C to +55 °C
Max. working pressure	Application with retaining ring: 3 bars, no pressure impulses and/or vibrations
Flow rate	Approx. 15–30 L/h in FlowCell
Warranty	1 year (EU/US: 2 years) on electronics; wear parts are excluded from warranty.