



Free Chlorine

90S21000X



The chlorine sensor from the eCHEM sensor product range is an electrochemical sensor for measuring the chlorine concentration in water. This sensor detects free chlorine from inorganic chlorine products (chlorine gas, hypochlorite, etc.).

The measuring method has a reduced pH dependency, so that pH value fluctuations only have a minor influence on the measuring signal. When the pH value increases, the measurement signal decreases by only approx. 10 % per pH unit.

Advantages

- Integrated temperature compensation
- Stable signals even with changing pH values
- Abrasive particles are tolerated
- Surfactants are partially tolerated

Applications

- Swimming pools
- Drinking water monitoring
- Sea water

Technical specifications

Measurement technology		Membrane-covered, amperometric potentiostatic 3-electrode system	
Measuring principle		Amperometry	
Parameters		Free chlorine with reduced pH dependence	
Measuring range		0...2 mg/L, 0...20 mg/L	
Accuracy	Measuring range 2 mg/L:	at 0.4 mg/L < 1 %	at 1.6 mg/L < 1 %
	Measuring range 20 mg/L:	at 4 mg/L < 1 %	at 16 mg/L < 3 %
Response time		T90: approx. 2 min	
Run-in time		For initial commissioning approx. 2 h	

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Drift	approx. -1 % per month	
Temperature compensation	Automatic, through integrated temperature sensor; temperature jumps must be avoided	
Housing material	Microporous hydrophilic membrane, PVC-U, stainless steel 1.4571	
Dimensions (Lx Ø)	~ 205 mm x 25 mm	~ 8.1" x 1"
interface	RS-485, Modbus RTU	
Power supply	9 – 30 VDC	
Connection	8pin M12 plug	
Maintenance interval	Typically once a week	
System compatibility	Modbus RTU	
Warranty	1 year (EU&US: 2 years) on electronics; wearing parts are excluded from the warranty	
Process pressure	With retaining ring	3 bar* ~ 43.6 psi*
	Without retaining ring	0.5 bar* ~ 7.3 psi*
Calibration method	Chlorine determination with DPD-1 method	

*No pressure surges and/or vibrations

Process temperature	0...+45 °C**	~ +32...+113 °F**
Flow rate	Approx. 15...30 L/h in FLC-3, slight flow dependency is present	
pH range	pH 4 ... pH 9, reduced pH value dependency	
Conductivity	10 µS/cm...50 mS/cm (seawater)	
Cross influences	Combined chlorine increases measured value	

**No ice crystals in the sample water