

HALOX TECHNICAL DATA SHEET

Halox Chlorine Dioxide (ClO₂) Sensor



The Halox Chlorine Dioxide Sensor is an electrode sensor consisting of a gold cathode, silver/silver chloride anode and a PTFE (polytetrafluoroethylene) membrane.

When the Halox Chlorine Dioxide Sensor is immersed in water containing chlorine dioxide, the chlorine dioxide diffuses through the PTFE membrane. Chlorine dioxide (ClO₂) molecules are reduced at the gold cathode to chloride ions and silver is oxidized to silver chloride at the anode. The resulting current is a direct measurement of the concentration of the ClO₂ present. Because the membrane is hydrophobic, ions such as hypochlorite do not interfere with the measurement.

The Halox Chlorine Dioxide Sensor provides an accurate and precise method for measuring residual levels of chlorine dioxide. Halox offers two versions of the sensor: one measures ClO₂ from 0.01 to 2.0 mg/L; the other measures ClO₂ from 0.01 to 10.0 mg/L.

Features

- Ease of installation and maintenance
- Replaceable membrane cap and electrolyte
- Compatible with any competitive ClO₂ generator and select controllers
- Compact design
- Supported by Halox

Applications

The Halox chlorine dioxide sensor measures ClO₂ in potable, industrial and process water applications including:

- Water Hygiene
- Clean In Place (CIP)
- Cooling Water
- Healthcare Facilities
- Reverse Osmosis
- Marine Applications
- Food and Beverage Processing
- Process Piping For Ultra Pure Water

Specifications

Measurement Range	0.01 to 2.0 mg/L or 0.01 to 10.0 mg/L
Response Time Upscale	90% < 1 min; 99% < 3 min
Polarization Time	1 st Polarization in 6 hrs; 2 nd Polarization in 3 hrs
Minimum Flow Velocity	3 mL/sec in 3/4 inch pipe
Minimum Flow Rate for Flow Cell	500 mL/min (8.0 gal/hr)
Temperature Sensor	NTC 10 K @ 25 °C
Temperature Rating	5 to 50°C (41 to 122 °F)
pH Range	4 to 11
Maximum Pressure Rating	2.5 bar (36.8 psi)
Enclosure Rating (Waterproof)	IP65
Average Life	
Membrane:	Up to 12 months depending on water quality
Electrolyte:	3 months
Cross Sensitivity/Interferences	Ozone
Wetted Materials	PVC and Teflon
Supply Voltage	16 to 24 VDC
Output Signal	4 to 20 mA

Parts

Part Description	Part Number
ClO ₂ Sensor – 0.01 to 2.0 mg/L	SEN-0002
ClO ₂ Sensor – 0.01 to 10.0 mg/L	SEN-0010
Membrane Cap	CAP-0001
Electrolyte, 50 mL	ELT-0001
Electrolyte, 475 mL	ELT-0002