

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

CLX-Ex2

Online TRO and Chlorine Monitor for Hazardous Environments

The HF scientific CLX-Ex2 Online TRO and Chlorine Monitor is a rugged, safe, and low maintenance instrument for shipboard ballast water treatment systems that require continuous monitoring and control of Total Residual Oxidant (TRO) levels in hazardous environments. User selectable cycle times, 4-20mA and RS-485 with Modbus output that can be used to control feed pumps and a user selectable alarm allows complete manual or automatic control of chlorine dosing.

Features

- **Optimized for marine applications**
- **For use in explosive atmospheres where combustible fuel vapors may be present**
Housing certified for IECEx and Zone 1 and Zone 2
- **IECEx certified**
Ex pxb IIC T4 Gb 0°C ≤ Ta ≤55°C
- **Total Chlorine**
Can be used for Total Chlorine and TRO measurements
- **Able to operate in ambient temperatures up to 55°C**
- **Low operating costs**
Low reagent use translates into low operating cost
- **Simple operation**
Designed for unattended operation up to 90 days
- **Colorimetric DPD chemistry**
- **Cycle times**
Cycle times can vary between 60 seconds to 10 minutes
- **Alarms**
User selectable alarms for sample concentration
- **Ballast water treatment, drinking water, and wastewater**
- **4-20mA and RS-485 with modbus**
- **High range to 15 mg/l (option) ±10% accuracy**



Ordering Information

PART NUMBER	DESCRIPTION
28034	CLX-Ex2 Online TRO and Chlorine Residual Monitor, 240VAC, with operating manual. Reagents must be purchased separately.

Accessories

PART NUMBER	DESCRIPTION
09950Ex	Replacement tubing/cuvette kit
28895	High Range Option (0-15 mg/l - Factory install)

Reagents

PART NUMBER	DESCRIPTION
09991	Total Chlorine Reagent for CLX-Ex2 - 12 Month Supply (based on estimated BWTS operational cycles)

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

HF scientific product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact HF scientific Technical Service. HF scientific reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on HF scientific products previously or subsequently sold.

Specifications

Measurement Range	0 – 10 mg/L (PPM) or 0-15 mg/L
Cycle Time:	User Selectable: 60 seconds to 10 minutes (600 seconds)
Accuracy:	For 0.00 - 10.00 mg/L Range: $\pm 5\%$ of reading or ± 0.03 mg/L (PPM) whichever is greater for range of 0-6.0 mg/L (PPM) $\pm 10\%$ of reading from 6.01-10.00 mg/L (PPM) For 0.00 - 15.00 mg/L Range: $\pm 10\%$ of reading or ± 0.03 mg/L (PPM) whichever is greater
Resolution:	0.01 mg/L (PPM)
Display:	Multi-line liquid crystal backlit display
Alarms:	One NO relay contact 120-240VAC 2A
Analog Output:	Powered 4-10mA, 600 Ω drive, isolated
Communications Port:	Bi-directional RS-485 with Modbus
Water Pressure:	Integral pressure regulator 0.34 bar (5.0 PSI) to 10.3 bar (150 PSI)
Flow Rate to Waste:	200 to 400 ml/min
Operating Temperature:	0°C to 55°C (32°F to 131°F)
Wetted Materials:	PVC, Borosilicate Glass, Reslyn (FFKM), Viton® (FKM), Polypropylene, 316 Stainless Steel, Acetal, Noryl®, Silicone
Sample Temperature Range	0°C to 55°C (32°F to 131°F)
Power Supply	100 to 240VAC, 47-63 Hz, 250VA
Insulation Rating	Double Insulated, Pollution Degree 2, Overvoltage Category II
Environmental Conditions	Altitude up to 2000 meters. Up to 95% RH (non-condensing)
IECEx Hazloc Rating	Ex pxb IIC T4 Gb 0°C \leq Ta \leq 55°C
Compressed Air	Water and oil free, -40°F (-40°C) Dew Point, Particles <5u, ISA Grade Hydrocarbon Free. Full time clean dry air at 5.5 - 7 bar (80-101.5 PSI) @35 SLPM (1.2 SCFM) @ 20°C (68°F) Max
Regulatory Compliance and Certifications	CE Approved, ETL Listed to UL 61010-1 Issued May 11 2013 3rd Ed & ETL certified to CSA 22.2 No. 61010.1 issued May 11 2012, EN61326:2006
Shipping Weight:	27.2 kg (60 lbs) Reagents are shipped separately
Shipping Dimensions:	93 cm x 62 cm x 32 cm (36-1/2" x 24-1/2" x 12-1/2")

NORYL is a registered trademark of SABIC Innovative Plastics IP B.V.

Viton is a registered trademark of DuPont Performance Elastomers LLC.



A WATTS Brand

USA: T: (239) 337-2116 • Toll-Free (888) 203-7248 • F: (239) 332-7643 • HFscientific.com
Latin America: T: (52) 81-1001-8600 • HFscientific.com