English

GF 2650 DryLoc® Amperometric Electronics

3-2650.090 Rev 12 02/22

Operating Instructions

Description

The 2650 Amperometric Electronics provide the polarization voltage and signal conditioning required by all GF Amperometric Sensors. Sophisticated circuitry makes system setup and verification easy. The 2650 Amperometric Electronics processes signals from a chlorine electrode and transmits digital data via a three wire cable to the 9950-X Chlorine Controller. The DryLoc® electrode connector quickly forms a robust assembly with the sensor. The Smart Sensor Electronics also accesses stored factory and real time environmental data stored on the chlorine sensor.

Features:

- Passes data stored in sensor memory, such as factory calibration data, service time, range and more.
- GF patented DryLoc® connector provides quick assembly and a secure connection.
  Gold-plated contacts and an O-ring seal ensure a waterproof and reliable interconnect to the sensor.
- Separate drive electronics from sensor make for easy sensor replacement without running new cable.
- DryLoc® connectivity allows easy sensor removal for calibration.

* NOTE: The 9950-X Chlorine Controller is not compatible with the standard 9950 controller.

WARNING
Refer to the 3-463X Chlorine manual for additional important information regarding safety and installation.

- English
- Deutsch
- Français
- Español
- Italiano
- 中文

Warranty Information

Refer to your local Georg Fischer Sales office for the most current warranty statement.

All warranty and non-warranty repairs being returned must include a fully completed Service Form and goods must be returned to your local GF Sales office or distributor. Product returned without a Service Form may not be warranty replaced or repaired.

GF products with limited shelf-life (e.g. pH, ORP, chlorine electrodes, calibration solutions; e.g. pH buffers, or other solutions) are warranted out of box but not warranted against any damage, due to process or application failures (e.g. high temperature, chemical poisoning, dry-out) or mishandling (e.g. broken glass, damaged membrane, freezing and/or extreme temperatures).

Safety Information

- Remove electrical power from the transmitter before wiring input connections.
- Follow instructions carefully to avoid personal injury or damage to the electronics.

	**Caution / Warning / Danger** Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, injury, or death
	**Electrocution Danger** Alerts user to risk of potential of injury or death via electrocution.
	**Electrostatic Discharge (ESD)** Alerts user to risk of potential damage to product by ESD
	**Personal Protective Equipment (PPE)** Always utilize the most appropriate PPE during installation and service of GF products.
	**Note / Technical Notes** Highlights additional information or detailed procedure.

Specifications

General

Compatible Electrode	All GF Amperometric DryLoc Sensors
Compatible Instrument	9950-X Chlorine Controller
Mounting	DryLoc® connection
Materials	PC+PBT
Cable	4.6 m (15 ft) 3 conductor shielded, 22 AWG
Shipping Weight	0.64 kg (1.41 lb)

Performance

Electronics Accuracy	< 5 nA or 1% of reading, whichever is greater @ 25 °C over full input range
Temperature	± 1.0 °C (Pt1000) over full operation range (when calibrated at ambient temperature)
Resolution	0.1 nA
System Response	500 ms (update rate)
Operational Range	± 450 nA

Electrical

Input Specifications	
Sensor	Raw signal
Temperature	Pt1000 RTD
Output Specifications	
Digital (S³L)	Serial ASCII, TTL level 9600 bps
Max. Cable Length	30 m (100 ft)
Power Supply Input:	
Digital (S³L)	5 to 6.5 V ± 10%, 3 mA max

Environmental

Storage Temperature	–20 °C to 85 °C (–4 °F to 185 °F)
Operating Temperature	0 °C to 85 °C (32 °F to 185 °F) (electronics only)
Relative Humidity	0 to 95%, non-condensing (no electrode connected)
Enclosure Requirements	NEMA 4X/IP65 with electrode connected

Standards and Approvals

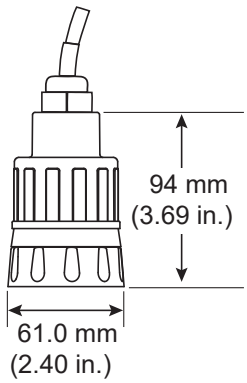
- CE, WEEE
- RoHS Compliant
- Manufactured under ISO 9001, ISO 14001 and ISO 45001

China RoHS (Go to gfsignet.com for details)

Declaration of Conformity according to FCC Part 15

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Dimensions

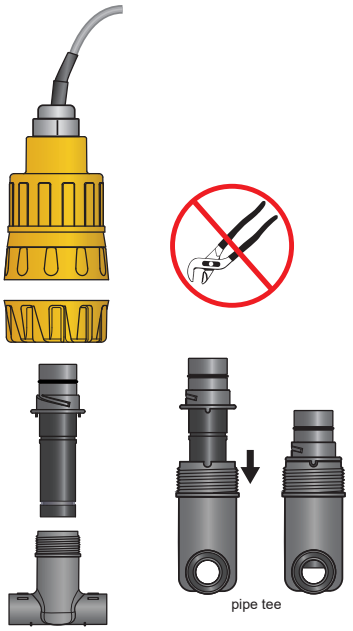


Installation

Lubricate O-rings with a non-petroleum based, viscous lubricant (grease) compatible with the system.
It is not necessary to lubricate the electrodes body O-ring when using the 463X Flow Cell.

3610 Flow Tee Installation

1. Lubricate the DryLoc® and the electrode body O-rings with a non-petroleum lubricant.
2. Insert fully into the fitting.
3. Install bottom retaining nut onto the fitting and hand tighten, do not use tools.

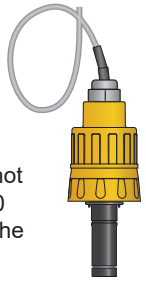


Do Not Use Lubricant or Sealing Tape on Threads.
Do Not Overtighten.

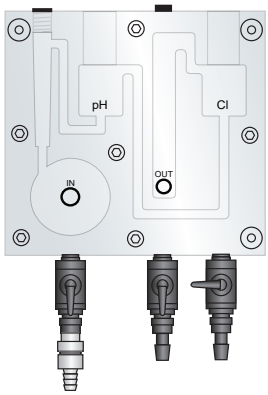
463X Flow Cell Installation

1. Lubricate the DryLoc® O-ring with a non-petroleum lubricant. (DO NOT lubricant the electrode body O-ring.)
2. Insert the sensor into the 2650.
3. Insert into the Chlorine (Cl) flow chamber and push lightly to secure.

The bottom yellow nut is not used when using the 2650 Chlorine electronics with the 463X Flow Cell.



263X Chlorine Sensor



463X Flow Cell

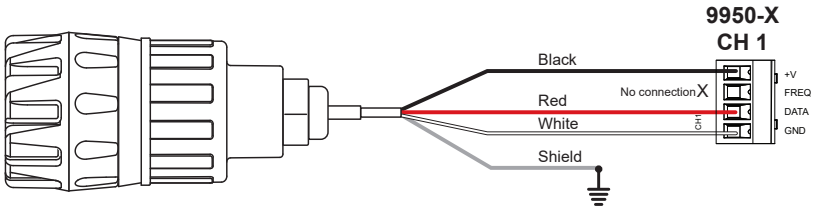
CHEMICAL COMPATIBILITY WARNING
The retaining nuts of Chlorine, pH and ORP electronics are not designed for prolonged contact with aggressive substances. Strong acids, caustic substances and solvents or their vapor may lead to failure of the retaining nut, ejection of the sensor and loss of the process fluid with possibly serious consequences, such as damage to equipment and serious personal injury. Retaining nuts that may have been in contact with such substances, e.g. due to leakage or spilling, must be replaced.

Wiring

Wiring to the 9950-X Chlorine Controller

To replace the 2650 electronics in a 463X Chlorine panel:

- Measuring from the yellow housing threaded end, cut the cable to approximately 838 mm (33 in.).
- Remove approximately 10 mm (0.4 in.) of insulation and tin each conductor before inserting into terminals.



- For calibration and configuration please refer to the 463X Chlorine Analyzer System and 9950-X Chlorine Controller manuals.

Ordering Information

Mfr. Part No.	Code	Description
3-2650-7	159 001 670	Ampermetric Electronics
3-2630-1	159 001 746	Free Chlorine electrode, 0.02 to 2 ppm (mg/L)
3-2630-2	159 001 662	Free Chlorine electrode, 0.05 to 5 ppm (mg/L)
3-2630-3	159 001 747	Free Chlorine electrode, 0.1 to 20 ppm (mg/L)
3-2632-1	159 001 767	Chlorine Dioxide electrode, 0.02 to 2 ppm (mg/L)

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For the most up-to-date information, please refer to our website at www.gfps.com

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