

# Electrolab's Water Disposal Solution

Ask About Our  
Special Fiberglass Sensor  
Pricing for Water  
Disposal Applications

In the upstream oil market, disposal of produced water from a well site is critical—  
Environmental concerns and stricter regulations mean producers must account for every drop



In today's upstream market, water disposal from a well site is critical. Concerns and tightening regulations mean operators must account for every drop. The safety of technicians and truck drivers is equally important, especially in high H<sub>2</sub>S environments. Monitoring levels in water tanks has challenges—different from oil production tanks. Depending on the type of well and production environment, these tanks can include:

- Produced Water Tanks
- Gun Barrel Tanks
- Separation Tanks
- Salt Water Tanks

To address these challenges, Electrolab offers three products ideal for meeting the demands of these harsh environments:

- Fiberglass Model 2100 Digital Level Sensor (DLS)
- RU Flex 2100 Digital Level Sensor (DLS)
- TankChek Remote Monitor

## The Problem

Produced water from oil and gas wells can contain not only condensate, salt, oil and grease, but inorganic and organic chemicals and potentially high levels of H<sub>2</sub>S. Scaling, corrosion, and iron sulfide buildup are common problems in produced water tanks. **Since water disposal tanks have less agitation than production tanks, traditional steel level sensors and radar sensors with steel cables are prone to fouling, corrosion, and scale build up.** Finding the right sensor solution for these tanks is important, otherwise users are disappointed with the performance, durability, and return on investment of their equipment.

## Our Solution

The fluid in salt water disposal tanks is not homogeneous, the composition is not always stable, and it is very dependent on the site of the well and the chemicals used in the drilling process.

The ideal measurement solution for these tanks must meet the following criteria:

- Resistant to scale buildup and corrosion
- Accurate, reliable, low maintenance
- Accessible, easy to read data
- Cost effective

Electrolab's Fiberglass DLS 2100 and the RU Flex 2100 fit this criteria. Link our TankChek remote monitoring device with a up to eight of these sensors and you have a durable, reliable, accurate, and safe solution for monitoring level in water disposal tanks.

## Fiberglass Model 2100 DLS

The Fiberglass Model 2100 DLS repels scale and iron sulfide eliminating the sticky buildup that accumulates on any steel surface. Operators will see a more reliable, longer lasting sensor. The sensor offers 1/2- or 1/4-inch accuracy and resolution with calibration free maintenance. Fiberglass should be used when H<sub>2</sub>S content is high, specifically over 500 ppm.

## RU Flex 2100 DLS

The RU Flex 2100 DLS is built on the same measurement technology as the widely successful Model 2100 DLS. The RU Flex 2100 offers a flexible and rugged measurement solution that is easy to ship and install



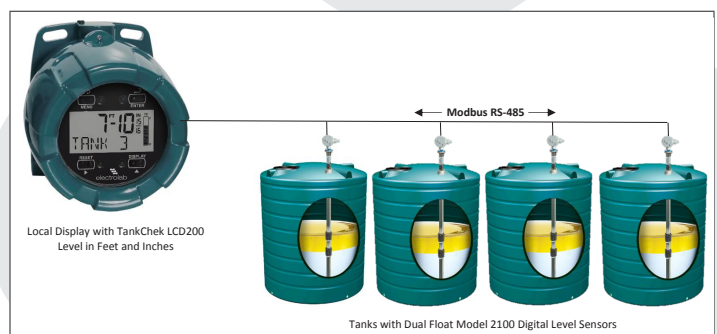
with measurement accuracy up to 3/16" with 1/8" resolution. With its rugged, chemical and abrasion resistant UHMW hose, the RU Flex sensor can be rolled into a 36" diameter coil, carried over the shoulder and installed by one man standing flat footed on a catwalk. The

sensor ships standard carrier in a box. Use the RU Flex 2100 when ease of installation is important.



## TankChek

From a safety perspective, operators cannot afford the liability of truck drivers or technicians on the top of the tank. Electrolab's TankChek is a simple, cost effective, explosion proof remote monitoring device to keep personnel off storage tanks. When mounted at the base of a group of tanks, TankChek allows drivers, technicians, and operators to read tank levels without climbing the catwalk or opening the tank. One TankChek can display readings for up to 16 process variables—for example, level and temperature from 8 different tanks.



(See Specifications on Back)

**RU Flex 2100 DLS**

**Material and Length**

- UHMW-PE (Ultra High Molecular Weight Polyethylene) Hose
- Available in measurement lengths from 2 feet to 48 feet

**Float**

- NYTROPHYL stainless steel
- Two piece floats for field installation and replacement
- One float used for product level
- One float for water interface level
- Designed to fit through a three-inch NFPT tank port

**Pressure**

- 40 psi: standard

**Wiring**

- 18 AWG recommended for digital circuits

**Level Measurement Increments**

- 1/8-in. resolution; 3/16-in. accuracy
- 1/4-in. resolution; +/- 1/8-in. accuracy
- 1/2-in. resolution; +/- 1/4-in. accuracy
- +/- 0.1% repeatability

**Coiled Diameter**

- Approximately 36-inch diameter

**Anchor Weight**

- 3 in. diameter, required weight can vary based on sensor length
- High turbulence weight (optional)

**Fiberglass 2100 DLS**

**Material and Length**

- Fiberglass
- Available in measurement lengths from 2 feet to 27 feet

**Float**

- NYTROPHYL stainless steel
- One piece floats
- One float used for product level
- One float for water interface level
- Designed to fit through a four-inch NFPT tank port

**Pressure**

- 15 psi: standard

**Wiring**

- Two-wire communication: two twisted pair (16-18 AWG) recommended
- Four-wire communication: three twisted pair (16-18 AWG) recommended

**Level Measurement Increments**

- 1/4-in. resolution; +/- 1/8-in. accuracy
- 1/2-in. resolution; +/- 1/4-in. accuracy
- +/- 0.1% repeatability

**Shared Specifications**

**Communication**

**Open communication protocols allow Electrolab's DLS products to interface with most manufacturers' equipment. We offer:**

- RS485
  - Two- or four- wire communications
  - Baud rate and parity programmable
- 4-20mA signal available when connected to an Electrolab 3010 digital-to-analog converter board
- Wireless compatibility with preferred partners

**Certification / Classification**

- ANSI/UL-913, 7th Edition
- CAN/CSA C22, No. 157
- Class I, Div.1, Group D hazardous locations (when connected to an approved intrinsically safe barrier device)

**Operating Temperature Range:** -40°C to 80°C

**Power Requirements:** 5.6 VDC to 12.9 VDC

**Power Consumption:** 15 mA nominal 20 mA maximum

**Protocol**

- Modbus RTU 16-bit unsigned integer
- Modbus RTU 32-bit floating point
- Modbus RTU 2 x 16-bit
- Serial Data via ASCII

**Temperature Measurement**

- 12 inches from bottom
- +/- 1.5° C accuracy
- Up to 8 distinct temperature measurements (one standard)

**TankChek**

- **Decimal Display:** Five-digit top display; seven-digit bottom display
- **Feet and Inches Display:** 0.60" (15.2 mm) top display; seven-character bottom display
- **Symbols:** Total, grand total, high alarm, low alarm, safe button sleep mode/disable, password lock
- **Tank Level indicator:** 20 segments, F (Full) and E (Empty)
- **Backlight:** Active backlight from -20°C to 85°C, deactivated below -20°C
- **Alarm Indication:** Flashing display plus HI/LO alarm or SET indicators
- **Programming Methods:** TankChek Wizard, Four "Touch Sense" through-glass buttons (cover installed), or Four internal pushbuttons (cover removed).
- **Password Menu Options:** Three programmable password selections
- **Input Power:** 9-30 VDC, 38 mA max., 2.2 W
- **Data Logging:** Up to 512 records including date and time

**Ratings and Approvals**

**FM:**

- Class I, Division 1, Groups B, C, D
- Class II & III, Division 1, Groups E, F, G; T6
- Class I, Zone 1, AEx d IIC T6 Gb
- Zone 21, AEx tb IIIC T85°C
- Ta = -40°C to +75°C
- Enclosure: Type 4X & IP66

**CSA:**

- Class I, Division 1, Groups B, C, D
- Class II & III, Division 1, Groups E, F, G
- Ex d IIC T6
- Enclosure Type 4X, IP66/68:
- Ta = -40°C to +75°C



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