electrolab®

RAIL PRODUCTS

RAIL PRODUCTS CATALOG

RUGGED. RELIABLE. ACCURATE.

MADE IN THE U.S.A.

WHY CHOOSE ELECTROLAB FOR YOUR RAIL APPLICATIONS?

At Electrolab, we know you have a choice of companies to partner with for your instrumentation needs. We believe Electrolab offers the best combination of quality, dedicated service, support, and value that you will find! Our long-term relationships with many world-class end-users, distributors and integrators are testaments to this belief. Electrolab products are among the most rugged, reliable and accurate on the market. Our focus on safety, both the safety of workers and the environment, will give you peace of mind when purchasing our products.

Our offerings in the rail industry reflect the current priorities and concerns of the market. We offer:

- Rugged, accurate, and reliable level measurement solutions for tanks and run off areas to support your operations and to help you comply with environmental regulations
- Lightweight, safe, and flexible measurement solutions for temperature and level inside the rail car at the steam or loading dock
- Expertise in developing and manufacturing products for use in rugged and hazardous environments

Our solutions allow you to measure:

- Multiple temperatures within a rail car or tank
- Recovered oil from water runoff
- Level in various tanks throughout the yard: diesel, lubricants, water and more
- Level inside the rail car while loading or unloading

Our instrumentation designs include open communications protocols allowing Electrolab products to integrate easily with other manufacturers' equipment as part of your rail yard management and loading/unloading processes.

Since 1976, Electrolab has provided INNOVATIVE, QUALITY, RELIABLE sensors, controls and industrial electronics. With our Texas-based corporate office and manufacturing facility, our expert and experienced field sales team, and our extensive, authorized Channel Partner distribution network, we are uniquely positioned to serve customers throughout the Americas. We produce our own electronics in-house with state-of-the-art surface mount equipment, allowing us to produce high quality, high-temperature electronics and maintain extremely low warranty rates year after year. We control our production lead times, which allows us to accommodate special orders and requests, handle specific invoicing and shipping requirements, and maintain tight control of our product quality. Our simplified support policies make it easy to do business with us and allow us to offer faster response times to your inquiries.

Let Electrolab put our experience to work for you!

Electrolab Corporate Headquarters

TEMPSENS™

Temperature Measurement of Liquids Transported by Rail Car

Electrolab's TempSens™ is specifically designed to measure and monitor the temperature of petroleum products, chemicals, liquids, asphalts, and other media transported by rail car. Frequently, these types of materials are heated at railroad terminals as they are moved across the country from their point of origin to a destination site for loading or unloading. With TempSens™, you will be able see not only one temperature point but the temperature profile of the tank, leading to more efficient loading, more efficient heating, and more efficient overall operations. All of this is done with a focused eye on safety for the operator and for the application.

TempSens™ is C1D1 certified for use in hazardous locations when used with a C1D1 instrinsically safe wireless head. The sensor features a 1/2" diameter temperature probe with one to three temperature sensors. By default, one temperature sensor resides at the bottom of the probe and one four feet from the bottom. However, the location of the temperature sensors is customizeable. The sensor itself has a 2-inch male NPT process connection for mounting to the top of the tank. TempSens™ can be mounted at the yard or manually inserted into the tank.

Open communication protocols allow TempSens™ to interface with many partners' wireless radios and gateways to transmit temperature data directly to a PLC or control room for monitoring and control of the heating process.

SPECIFICATIONS

MATERIAL	304L stainless steel, 18-gauge: 1/2" probe enclosure offers a small footprint to fit in most tanks. Treated with e9 Treatments' Pro Performance to help deter buildup and to create an easy to clean surface.
LENGTH	Standard configuration: 7.5 feet; 18 inches above the tank port, 6 foot probe inside the tank. Custom lengths available.
TEMPERATURES	One to three temperature readings. The number and placement of temperature sensors is customizeable.
TEMPERATURE RANGE	-25 to 495°C (0-923°F), accuracy of +/- 0.3°C at 0°C and +/- 1.8°C at 300°C
POWER REQUIREMENTS / CONSUMPTION	5.6 VDC to 13 VDC 15mA nominal, 20mA maximum
PRESSURE	Up to 250 psi
COMMUNICATIONS	Wireless compatibility with preferred partners; Ethernet through a wireless gateway and Modbus protocols.
CERTIFICATION	Class I, Div 1, Group D hazardous locations when used with a C1D1 intrinsically safe wireless head.

SAMPLE INSTALLATION DIAGRAM

REDILEVEL™

Accurate, Reliable Level Measurement Through a Two-Inch Tank Port

The RediLevel™ 2100 DLS is Electrolab's general purpose digital level sensor for tanks and storage vessels with smaller ports. The RediLevel™ is ideal for rail yard wastewater collection and treatment facilities, as it can measure multiple fluid levels (oil and water) and multiple temerature zones through a single tank port. Level and temperature readings are not affected by tank turbulence or changing environmental variables for ongoing accuracy and reliability.

EASY INSTALLATION / ONE TIME CALIBRATION

The RediLevel™ is light-weight with a slim profile that fits through a two-inch tank port. It is easy to install and easy to start up. Simply set the initial offset and RediLevel™ is ready to monitor you tank. The RediLevel™ is low maintenance and requires no additional calibration after installation. All metal components of the RediLevel are factory treated with e9 Pro Performance Metal Treatment to significantly reduce buildup of material on the sensor and further reduce cleaning needs.

CERTIFIED FOR HAZARDOUS ENVIRONMENTS

RediLevel is certified C1D1 for use in hazardous locations and is intrinsically safe and explosion proof when used with an approved barrier or Electrolab's Explosion Proof Housing.

OPEN COMMUNICATIONS

Open communication protocols for hardwire or wireless communications.

e9 TREATMENTS™

The metal components of all Electrolab sensors are treated with e9 Pro Series Metal Treatment to help repel deposition, deter corrosion and reduce maintenance requirements.

MODEL 2100 DIGITAL LEVEL SENSORS

Reliable, Accurate Industry Workhorse Serving Harsh Environmentss

Electrolab's Model 2100 Digital Level Sensors (DLS) deliver continuous, accurate, and reliable monitoring of tank level and temperature in both hazardous and nonhazardous environments. Our sensing technology ensures accurate measurement of up to two levels and eight temperatures in the same tank with a single sensor. Robust design, built-in reliability and low power consumption keep maintenance and life-cycle cost minimal.

Multiple fluid densities and temperatures do not affect measurement. The Model 2100 Digital Level Sensors are suitable for production monitoring, inventory control, and high-level alarm/ shut-in and leak detection in a variety of storage tanks (crude oil, diesel, kerosene, gasoline, water and chemicals).

Open communications protocols allow these sensors to work with most wireless systems. The Model 2100 Digital Level Sensor consumes little power and maximizes external battery life making it ideal for use with third-party wireless communication devices and other equipment.

LOW MAINTENANCE / NO ONGOING CALIBRATION

After installing the sensor hardware and setting the initial level offset, these sensors require no calibration. All electronics are sealed inside the sensor tube, which is constructed of either stainless steel or fiberglass. Unlike some competitor's level sensing products, these sensors are not affected by electromechanical interference, tank turbulence or changing environmental variables. The Model 2100 Digital Level Sensor is virtually maintenance free.

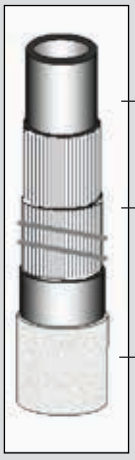
RIGID OR FLEXIBLE MODELS TO FIT YOUR APPLICATION

Rigid sensors are available in Stainless Steel or Fiberglass (for more corrosive environments). For easier installation and shipping or for tanks taller than 35 feet, our RU Flex Flexible sensor fits the need.

The RU FLEX coils into a 36" diameter and fits neatly in a box for shipping and storage. Once delivered to the site and assembled the RU FLEX can be easily carried to the site and installed by one person.

HOSE CONSTRUCTION

The RU Flex Hose is constructed of multiple layers to ensure its strength and durability in hazardous environments. Various barrier layers protect the internal electronics from moisture and other chemicals.



LEVEL SENSOR SPECIFICATIONS

	REDILEVEL	MODEL 2100 - SS	MODEL 2100 - FG	RU FLEX 2100
MATERIAL/LENGTH	316L Stainless Steel, 18 gauge. Measurement lengths from 2-16 feet, 0.75” x 1.5” tube.	316L Stainless Steel, 18 gauge. Measurement lengths from 2-35 feet, 2’’x 2” tube.	Fiberglass for highly caustic and high H_2S environments. Measurement lengths from 2-30 feet.	Proprietary, flexible hose design with multi-layer barrier properties for use in difficult environments. Measurement lengths from 2-48 feet.
OPERATING TEMPERATURE	-40 to 80°C	-40 to 80°C	-40 to 80°C	-40 to 70°C
FLOAT* * Custom floats available, including specific gravity and a Hazardous Environment (HE) float for unique environments	Nylon and nitrophyl. One float for product level, additional float (optional) for water interface. Fits a 2” FNPT port.	Nitroyphyl with paraffin resistant stainless steel carrier. One float for product level, additional float (optional) for water interface. Fits a 3” FNPT port.	Nitroyphyl with paraffin resistant stainless steel carrier. One float for product level, additional float (optional) for water interface. Fits a 4” FNPT port.	Nitroyphyl with paraffin resistant stainless steel carrier. One float for product level, additional float (optional) for water interface. Two-piece float for easy field installation. Fits a 3” FNPT port.
RESOLUTION	1/4” with +/- 1/8” accuracy +/- 0.1% repeatability.	1/8” with +/- 3/16 accuracy 1/4” with +/- 1/8” accuracy 1/2 with +/- 1/4” accuracy +/- 0.1% repeatability.	1/4” with +/- 1/8” accuracy 1/2 with +/- 1/4” accuracy +/- 0.1% repeatability.	1/8” with +/- 3/16 accuracy 1/4” with +/- 1/8” accuracy 1/2 with +/- 1/4” accuracy +/- 0.1% repeatability.
TEMPERATURE MEASUREMENT	12 inches from bottom +/- 1.5°C accuracy.	12 inches from bottom +/- 1.5°C accuracy Up to 8 distinct temp measurements (one standard).	12 inches from bottom +/- 1.5°C accuracy Up to 8 distinct temp measurements (one standard).	14 inches from bottom +/- 1.5°C accuracy Up to 8 distinct temp measurements (one standard).
POWER REQUIREMENT/ CONSUMPTION	5.6 VDC to 13 VDC Startup, transmission to power down <200msec 15mA nom.; 20mA max.	5.6 VDC to 13 VDC 15mA nom.; 20mA max.	5.6 VDC to 13 VDC 15mA nom.; 20mA max.	5.6 VDC to 13 VDC 15mA nom.; 20mA max.
PRESSURE	40 psi standard 250 psi (optional)	40 psi standard 250 psi (optional)	40 psi standard	40 psi standard
COMMUNICATION/ PROTOCOL	Open communication protocols allow Electrolab sensors to interface with many other manufacturers’ equipment. We offer: RS485: Two- or four-wire communications, baud rate and parity programmable (up to 57,600 baud) Wireless communication compatibility with preferred partners.			
APPLICATIONS	Smaller tanks, chemical tanks, fuel and lube tanks, rail cars.	Production tanks, collection tanks, tank with paraffin and other waxy/ sticky substances.	High H_2S environments, water and other tanks with scaling issues, caustic or corrosive environments.	Oil tanks, water tanks, brine tanks, caustic and corrosive environments, high paraffin oil tanks, tanks with low overhead clearance.

CLASSIFICATION/ CERTIFICATION

All sensors are certified:
- Class 1, Div 1, Group D hazardous locations
- ANSI/UL-913, 7th Edition
- CAN/CSA C22, No. 157

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