DataPORT™
Wireless Tank Level Gauge

aks technologies inc.
Intelligent Measurement Systems

Features:

- ☑ Intrinsically Safe Wireless Tank Level Gauging System
- ☑ Easily Interfaces with Existing and New SCADA Systems
- ☑ Excellent Transmission Range for Extended Area Coverage
- ☑ Wireless Transmitter with Local Display and Intuitive Interface
- ☑ Battery Operated, Runs 3 Years on Internal "C" Battery, No External Power Required
- ☑ Hastelloy™ Construction Provides Excellent Chemical Compatibility
- ☑ No Conduit, Wiring or Trenching Required
- ☑ No Moving Parts to Stick or Break, Virtually Maintenance Free
- ☑ Typical Installation Completed in 1-2 hours

Description:

The DataPORT™ Wireless Tank Level Gauge (WTLG) is a cost effective solution for monitoring above or below ground storage tanks that are at or near atmospheric pressure. Gauged products include gasoline, fuel oils, crude oils, kerosene, diesel fuel, and water. Handles temperatures up to 225℉ (107℃).

The DataPORT™ WTLG system consists of a unique resistance tape sensor, compact filter assembly, sensor housing, wireless transmitter, and a base radio (logging to compact flash card local memory is optional). The filter assembly protects the sensor from corrosion and equalizes the pressure between tank and sensor. The stainless steel sensor housing mounts to a 3" female NPT fitting on top of the tank. Tank depths from 3 to 100 feet are accurately measured.

The DataPORT™ WTLG is the most dependable and cost effective wireless tank gauging system available. The wireless transmitter completely eliminates the need for expensive trenching, conduit, and cabling. Our unrivalled scalability and true "plug and play" design make the WTLG the preferred alternative to traditional hardwired tank gauging systems.

Principle of Operation:

(1)The resistance-tape sensor's outer jacket is compressed by hydrostatic pressure causing the gold plated nichrome wire helix to contact the stainless steel base strip.
(2) The resulting resistance indicates the length of active or non-contacted helix, and gives the distance from sensor top to liquid surface.
(3) The level is displayed locally and transmitted to the wireless radio interface.

Installation and Specifications

Installation:

The WTLG is easy to install and the tank does not need to be drained or taken out of service as the sensor is installed from the top. The sensor is installed in non-agitated tanks utilizing a stainless steel weight assembly that holds the sensor taught to the bottom of the tank. A still-pipe is used in agitated tanks. Typical sensor installation time is approximately 1 hour.

Complete Well Site Solution:

In addition to the DataPORT Wireless Tank Level Gauge, the following wireless sensors are also available:

- Pressure (Ranges from 0-5 to 0-10,000 PSI)
- Temperature – RTD and TC available
- Differential Pressure (100 inches to 300 PSI)
- Turbine – Liquid or Gas Measurement
- Analog Multi-Input (dual 4-20mA or 0-10V)
- Switch Input (dual contact closure w/ JB)
- Absolute Pressure

Contact us for additional specifications, ranges, custom applications, and configurations.

Specifications:

Overall Sensor Length: 3 to 100 feet (1 to 30 meters)

Operating Temperature Range: 5℉ to 225℉ (-15℃ to 170℃)

Wetted Materials: Hastelloy C276, 306 stainless steel, nylon 12, Chrome plated brass

Active Helix: Starts 6.3 in. (160mm) from sensor zero, Extends to approx. 1.6 in. (40mm) from sensor bottom

Helix Resolution: ¼ inch (5mm)

Actuation Depth: Nominal 7 inch (180mm) head of water, offset at calibration.

Specific Gravity Effect: 1% increases in SG causes nominal .07 in. (1.8mm) Increase in indication level (can be calibrated).

Resistance Gradient: 305 Ω/ft (1000 Ω/ft), ± 1.5% Helix Temperature Coefficient: 40 ppm/℃

Frequency Response: 0 to 0.1 Hz at 1 m amplitude

Sensor Filter: Polypropylene and viton construction. Filter life of 24 to 48 months, varies with application and level cycle activity

Pressure Equalization: Direct Equalization ± 2 PSI

Sensor Housing: 304 Stainless Steel, 8 x 8 x 7in. (203 x 203 x 178 mm), punched for 3 inch, 125/150 lb. flange

Transmitter: Comes standard I.S. approved wireless Optional 24VDC, 4-20ma current loop is available. The optional transmitter is Intrinsically safe when used with appropriate barriers.

Approvals: FM intrinsically safe, Class 1 Division 1, groups C, D.

Temperature Detector: (Optional): A two-wire RTD, 1000 ohm platinum. Located 2.0 ft (.6m) from bottom

Wireless Transmitter: Up 3000 ft LOS / 1000 ft obstructed. Intuitive user interface with local data display. Typical battery life is 3 years - no external power required.

Sensor Shipments / Storage: Weight: 22lb (10 kg), plus 0.4 Lb/ft (0.6 kg/m). Lengths 3 feet (1 meter) may be in rigid tube. Longer sensors and coiled paper board reel and packed in corrugated box 42 x 42 x 3 in. (107 x 107 x 8 cm). Packing adds (3.63 kg) to sensor weight.

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