Density Measurement Sensor

Whether for a new or existing installation, the Density Measurement Sensor easily installs on the OPW Magnetostrictive Probe. Combining industry-leading accuracy for water, product and density measurement, the SiteSentinel® family Density Measurement Sensor uses a single magnetostrictive in-tank probe assembly.

The sensor continuously measures the density of the fuel in the tank, providing a measure of even the smallest changes in product quality within the API density range. Fuel density reports can be displayed real-time on the SiteSentinel® family of tank gauges or exported to an external display. The density readings can be configured to either nominal or temperature-corrected density.

Density Measurement Sensor Features

Part of the **Site Sentinel®** family of products

Accurate

Uses float displacement, taking advantage of the precision and accuracy of the magnetostrictive probe's level measurement, which is capable of detecting changes of 0.0005 in (0.0127 mm).

Installation

Density and level measurement capabilities combined on one I.S. channel simplify installation requirements.

Easy Integration

As with every OPW tank gauge component, the density sensor works seamlessly with the SiteSentinel® family of products.

Savings

Easily retrofitted to new and existing in-tank SiteSentinel® 924B level probes, providing an economical solution to ensure continuous product quality.

- Provides accurate, real-time data about product quality by continuously measuring fuel density
- Trouble-free design
- Easy to retrofit to existing in-tank level probes (SiteSentinel® 924B Probe)
- Density and level measurement combined on one (1) I.S. module position connection without the need for a dedicated input channel or additional wiring
- Fits through the same 2.0 in (5 cm) opening in the tank that's used by the probe
- Economical solution to ensure continuous product quality
- Four (4) probes (with density sensor) per I.S. Channel (with compatible tank gauges)
- Dedicated density probes can support three (3) density sensors per probe to ensure product quality – not available with level measurement
- Applicable in petroleum products designed for both underground (UST) and above ground (AST) rigid probe applications

NOTE: See OPW Fuel Management Systems' website at www.opwglobal.com for detailed product literature, manuals and sales representative contact information for your area.

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Additional Features

- Displays density in kg/m3, g/cc or API
- Single sensor per standard in-tank probe or multi-sensor for dedicated triple-sensor density probe

Specifications

Material: Nitrophyl®, Delrin® and stainless-steel spring

Resolution: 0.00004 g/cc

Accuracy: ±0.0025 g/cc

Density Range: 0.6 - 1.0 g/cc

Operating Temperature: -40ºF to 140ºF (-40ºC to 60ºC)

Dimensions: 2 in (diameter) x 11 in [5 cm (diameter) x 28 cm]

Number of Sensors per SiteSentinel® Integra 100™, Integra 500™ or iSite™ System: One per probe or multi-sensor dedicated probe equipped with three (3) sensors

Proven Magnetostrictive Technology

- Supports extended operating temperature range:-40ºF to 140ºF (-40ºC to 60ºC)
- Compatible with gasoline, diesel and other approved fluids

Magnetostrictive Probe Data

- Measures product level changes to a resolution of 0.0005 in (0.0127 mm
- Measures product temperature changes to a resolution of 0.001°F (0.0006°C)
- Measures water level changes to a resolution of 0.01 in (0.254 mm)
- Linearity over the entire probe length is ± 0.04 in (1 mm)

Probe Specifications

Type: Magnetostrictive/float

Material: All stainless steel construction, aluminum cap

Location: Hazardous, Class 1, Division 1, Group D

Probe Inputs: Intrinsically Safe

Probe Power Supply: 12 VDC Nominal

Level Precision: ± 0.0005 in (0.0127 cm)

Level Accuracy: ± 0.04 in (1.0 mm)

Temperature: ± 0.9°F (± 0.5°C)

Temperature: 5 RTDs

Temperature Range: -40ºF to 140ºF (-40ºC to 60ºC)

Data Cable: 1,000 ft (300 m) Belden 88760; 500 ft (150 m) max. Belden 88761 equipped with three (3) sensors

OPW LPG Floats and Density Measurement Sensors are not certified for applications in which they will be subjected to pressures at or above 300 PSI. Pressures higher than 300 PSI will damage the devices, preventing them from providing accurate measurements.