

ON THE LEVEL

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A38 Capacitance Level Transmitter Provides Cost Effective Oil Measurement with Water Detection Feature

Oil or diesel tank level measurement applications often have a small water level below the hydrocarbon layer. This is typically a result of condensation or entrained water in the hydrocarbon liquid which eventually settles out. Most technologies accuracy is either affected by this lower water level or cannot operate correctly at all. The A38 capacitance transmitter will allow the accurate measurement of the hydrocarbon level as well as detect the water layer below. This feature will allow control for your hydrocarbon level while continuously checking for water.

How does it work?

In a vertical capacitance probe installation, low dielectric constant (1.6-9) hydrocarbon levels such as crude oil, diesel, vegetable oil, etc. can be accurately measured. The level has a corresponding 4-20 mA output signal. When a high (+10) dielectric liquid such as water is detected by the probe, the mA output will indicate past the 20mA scale and over range at 20.6 mA. The 20.6 mA output indicates that the capacitance range of the transmitter has been exceeded and indicates water or other high dielectric liquid touching the probe. This output can then be used by a PLC or any other control device to open a valve at the bottom of the tank to remove any water level touching the probe. Once the water level drops below the tip of the probe, the mA output will instantly lower and begin tracking the hydrocarbon level again. Controlled testing has revealed that measuring the hydrocarbon level and detecting the water below this level are both accurate and repeatable.

In order to achieve these results, the transmitter must be configured and calibrated in the vessel with oil or other hydrocarbon only in contact with the probe. A bare probe must be used for all hydrocarbon based liquid applications and should be at the necessary length to detect the water level, usually 3"-4" from the bottom of the tank.

With no moving parts and a price of less than \$1000, the A38 solves two problems with one instrument and provides a cost effective level solution.

For more information about the A38 transmitter, contact Product Manager **Winston Landymore** at Wlandymore@ktekcorp.com, or send inquires to sales@ktekcorp.com.

