

# Wireless Leak Detection of Liquid Hydrocarbons

**TT5000**  
Sensor Cable for  
Hydrocarbon Liquids



## TraceTek Leak Detection and Overfill Protection combine with Smart Wireless Technology

Aquilar through its partnership with TraceTek and Rosemount are able to provide a reliable and effective wireless leak detection for tank farms and refineries. TraceTek® TT5000 fuel sensor cable or TraceTek TT-FFS fast acting fuel probes are compatible with Rosemount's Type 702 Hydrocarbon Leak Detection Transmitters and the Smart Wireless system. Each Type 702 transmitter can support up to 300 metres of TT5000 cable or up to three TT-FFS fast acting fuel probes.

Rosemount Smart Wireless mesh networks are self organizing, self healing and adapt on-the-fly to obstructions in the telemetry path. Each network can support up to 100 Type 702 Transmitters and if more are needed additional networks can be added. Networks can physically overlap without interference

The system can output field sensor data directly into a facility SCADA package or to a dedicated TraceTek TTDM-128 leak detection alarm panel.

Mesh radios operate on intrinsically safe battery packs that can be removed and replaced in the field within hazardous areas. Battery life time is five years or longer, depending on selected update rate.

Type 702 Transmitters and the TraceTek sensors are approved by FM and BASEFFA to worldwide hazardous area classifications up to CID1 and Zone 0.

RF spectrum approvals are in place in over 200 countries.

Over 1200 petroleum industry facilities around the world are using the Rosemount Smart Wireless mesh networks. TraceTek has installed TT-FFS and TT5000 sensors world-wide. Now that the two systems are merged, the petroleum transportation and storage industry has unprecedented low cost, effective, leak and over fill detection.

**TT-FFS-100**  
Fast Acting Fuel Probe



**aquilar**  
leak detection solutions

Mesh Wireless Link to the Control Room



Familiar TraceTek Alarm Panel in Control Room



Replace miles of this



With a few of these



# Applications

## **Tank Bottom Leak Detection**

Install TT5000 sensor cable under tank bottoms or buried around the tank perimeter to detect fuel leaking into the soil through corroded steel plates and seams.

## **Detect Leaks Through Rain Drains or Side Wall Fittings**

Use TT-FFS fast acting fuel probes in catch basins or ring moats to detect seepage through side wall fittings or fuel leaking into a corroded internal roof drain pipe.

## **Leakage at Floating Roof Seals or in Flotation Pontoons**

Use TT-FFS to detect fuel accumulations on floating tanks roofs when fuel gets by the ring seal or backs up through an ice plugged rain drain. Monitor interiors of flotation chambers around the rim of a floating roof to detect rain or fuel accumulating in the pontoons.

## **Over Fill Detection**

If SCADA and limit switches fail, and fuel is pumped over the top of the tank, the TT-FFS and wireless mesh can alert control room staff to this critical condition.

## **Oil/Water Separator Failures**

A TT-FFS in the final section of an oil/water separator can detect hydrocarbons that get by the separator system.

## **Fuel Floating on Storm Water Accumulations**

TT-FFS fitted to float platforms keep the fuel sensor probe in a position to monitor fuel films collecting on the surface of the storm water accumulation. Monitor storm water before rain drains are opened to surface water drainage.

## **In-Soil Monitoring of Buried Valves and Flanges**

Flanges and valve packing may go uninspected for years between preventive maintenance cycles. TT5000 sensor cable can detect crude oil or fuels in the immediate vicinity of a buried fitting and alert the control room that inspection and repair may be required.

## **Transfer Pipe Monitoring**

TT5000 sensor cable is sensitive along every centimetre of its length. It can be buried in slotted PVC conduit alongside an underground pipe or mounted on the underside of above ground pipe. For short transfer lines and batch flow lines that are used intermittently, TT5000 can detect leakage that would be invisible to SCADA based leak detection systems.

## **Double Containment Tank and Pipe Monitoring**

The interstitial space around a double-wall pipe or between the walls of a double-wall or double-bottom tank is an ideal place to install TT5000 or TT-FFS. The sensor detect the presence of any hydrocarbon based liquid when the fuel escapes into the containment area.

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