TraceTek

Industrial Strength Leak Detection

Don't let an undetected leak or spill ruin the environment or your reputation...

tyco Thermal Controls

TraceTek® Technology:

Find leaks before major damage is done…

Detect a spill, locate the source of the leak and take corrective action before an incident becomes a "news story." The key is quick detection and accurate location at the source of the leak. TraceTek sensor cable and monitoring systems make it possible.

If your business involves the transportation, storage, processing or consumption of hazardous fluids, the possibility of a leak must be considered.

Whether your concern is gasoline, jet fuel, diesel, crude oil, acids, bases, contaminated water or any other hazardous liquid, TraceTek® can provide a leak detection system tailored to your needs.

TraceTek leak detection systems can detect and pinpoint the source of a leak to help you take decisive action long before the spill can ruin your reputation.

TraceTek Technology:

Sensor cable suited to the task

- TT3000 for acids, bases and other hazardous fluids with water content
- TT5000 for gasoline, jet fuel, diesel, crude oil, lube oil and other hydrocarbon based liquids
- TT5001 for organic solvents
- TT7000 for strong acids and bases

Reliability

- Simple detection and location circuit
- Radiation cross-linked, fluoropolymer materials
- No exposed metal parts
- Tens of thousands of installations worldwide in virtually every type of environment

Easy installation, simple maintenance

- Simple, easy to understand alarm panel
- No field calibration required
- Self-monitoring for damaged or broken cable
- Easy to extend or modify in the future

Accurate leak location

- The entire cable is a sensor
- Leaks are reported to the nearest foot or meter with better than 0.1% precision

Instrumentation flexibility

- Small area, single channel monitoring with relay output
- Long-length cable monitoring with precise leak location reporting
- Single circuit / multiple circuit options
- Alpha numeric user interface
- Output to host systems via relay contacts, 4-20 mA analog current loop or serial data ports (Modbus® or Johnson Controls Metasys™ format)

Multiple circuit capability

- A single circuit can be as short as 1 meter or as long as 1500 meters
- TTDM-128 Alarm Panel can monitor a single circuit or up to 128 circuits

TraceTek Leak Detection Systems can operate as stand-alone independent alarm systems or they can easily be integrated with:

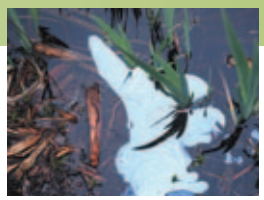
- SCADA system
- Factory Automation Systems
- Building Management Systems
- Distributed Control Systems
- Programmable Logic Controllers

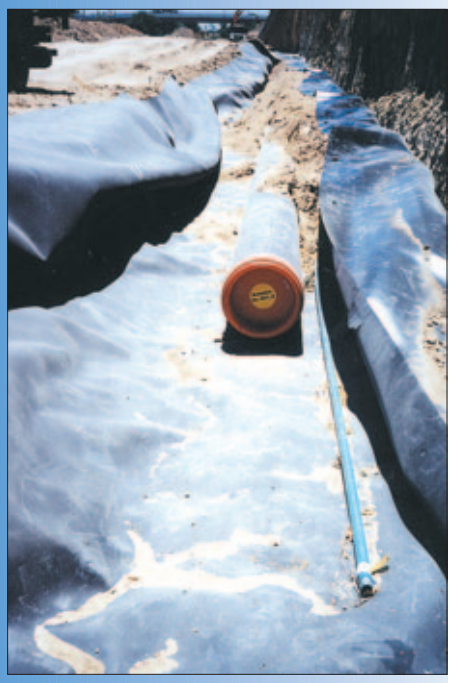
A TraceTek Leak Detection System consists of Sensor Cable, Sensor Interface Modules and Alarm Panels. Additional sensor options include: float switches, point probes, pressure switches or any other sensor device that can provide a contact closure.

Instrumentation options include: low voltage / relay contact devices, instruments for hazardous locations, battery powered flashing light indicators, and other options tailored to the application.

TraceTek® Cable:

Direct buried applications:





Jet fuel transfer line with blue PVC slotted conduit for TT5000 installed at a major international airport.

TT5000 Sensor Cable in PVC conduit can be positioned below buried valves or beneath Above-ground Storage Tank bottoms.

Leak Detection and Monitoring for:

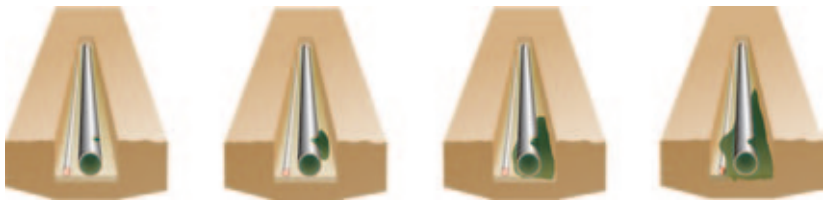
- single wall fuel pipe
- above ground storage tanks
- buried valves and fittings

TT5000 Fuel Sensor Cable is used to monitor the soil under and around fuel carrying pipes and tanks.

The TraceTek system detects and reports the location of a fuel spill before major damage can occur. Leakage rates far below the threshold of a SCADA (Supervisory Control and Data Acquisition) leak detection system can be detected while contaminated soil is still measured in a few cubic meters rather than truckloads.

The TraceTek system reports the location of a leak to an accuracy of ± 1 meter along the length of a pipeline or beneath a tank floor. The slotted PVC conduit allows the sensor cable to easily be removed and inspected for simple and direct verification of a leak before digging.

Detect and locate a leak before damaging the aquifer!



Above, typical progression of an 8 liter per hour leak

The intention is to detect a leak when the affected area is still small and easy to clean up, with a minimum of environmental damage.

Interstitial and Indoor applications:

Interstitial monitoring for double wall pipe.

TraceTek 3000 sensor cable is designed to detect waste water, acids, bases, or any liquid that is conductive. Rapid detection, accurate location reporting and excellent chemical resistance make TT3000 a popular choice for double containment pipe systems.

TraceTek 5000 is the sensor of choice for fuel piping and underground storage tanks. TraceTek 5000 detects fuel but ignores water. Branch connectors simplify tracing complex manifolds and hydrant systems. Every meter of cable has a unique "address" so that leaks are detected where they start and repairs can be accurately directed.

Indoor monitoring under raised floors, for chemical supply and return piping and other hazardous fluid leak detection.

Wherever complex piping, hazardous chemicals and critical working environments come together, a system to monitor for fluid leakage becomes critical.

TT3000 (for conductive liquids) and TT5001 (for organic solvents) are used to monitor the chemical supply systems in semi-conductor manufacturing facilities, pharmaceutical plants, and similar high-value facilities that demand excellent environmental monitoring.

TraceTek cable provides the flexibility to monitor long runs of pipe or a single valve box where visual inspection is difficult or impossible. Precise location reporting assists in rapid and accurate dispatch of emergency response teams.

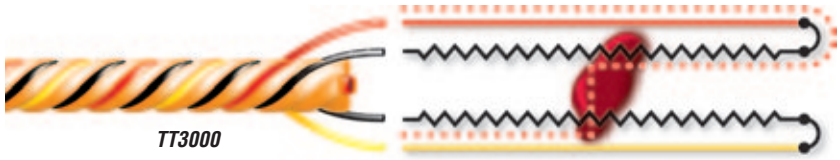
TraceTek® Technology:

TraceTek Technology and System Components

TraceTek Sensor Cables are made with materials that have excellent chemical resistance. The TT3000 sensor cable uses conductive polymer-coated wires separated by the solid Kynar® insulated core.

TT3000 is quick to reset when removed from a spill because the solid core resists accumulation of liquids and contaminants. TT3000 sensor cable detects conductive liquids such as waste water, acids, bases, cooling water etc.

TT7000 sensor cable is similar to TT3000, but is sensitive only to strong acids and bases.



TT3000

TT5000 sensor cable is designed to detect and locate liquid hydrocarbon fuel spills. The material properties of the core and jacket materials allow the cable to detect and locate liquid fuels such as gasoline, jet fuel and diesel while at the same time completely ignoring water.

TT5001 sensor cable is similar to TT5000, but is sensitive to organic solvents.

TT5000

TTDM-128 Alarm Panel can act as a stand alone leak detection control panel or as the display and user interface for a multiple circuit network of leak detection circuits.

TTSIM Sensor Interface Modules are the key components of multiple circuit leak detection networks.

Leak detection information and cable status is digitized and transmitted to a TTDM-128 panel for display or directly transmitted to Factory Automation Systems, PLC's, DCS etc.

TTDM-128

TTSIM-1

TTSIM-2 is a good choice for monitoring a small area.

TTSIM-2

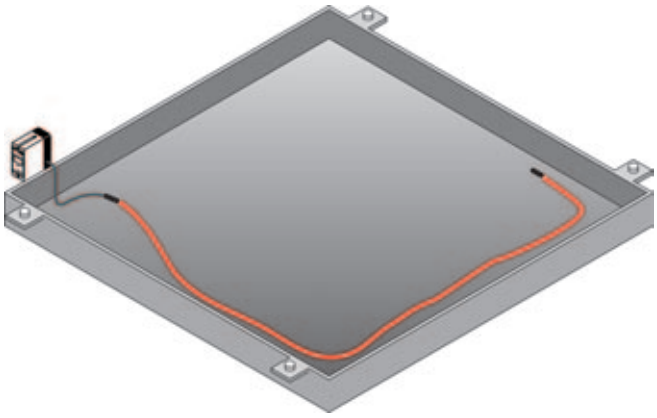
System integration and telemetry options:

Relay Contacts TraceTek instruments are available with leak alarm and trouble contacts for signaling a host system.

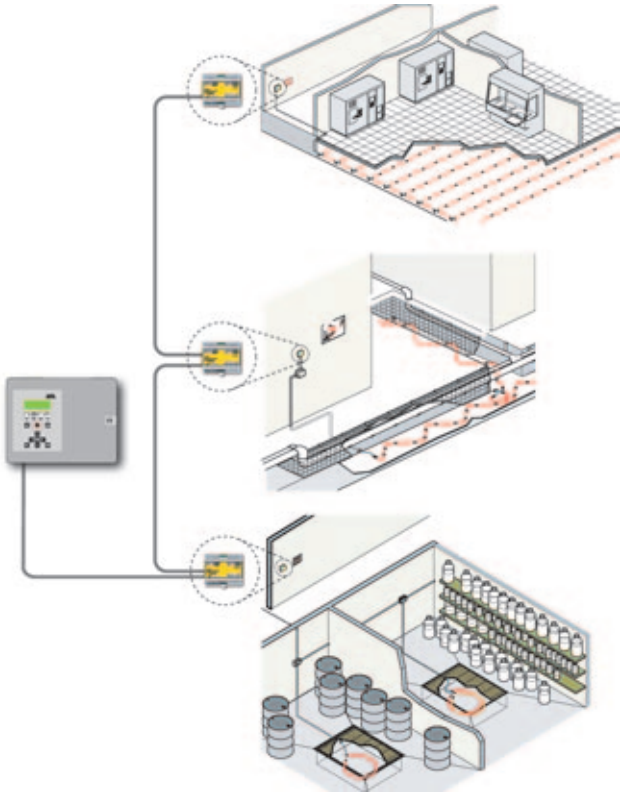
4-20 mA analog current TTDM-128 has an optional analog output. The installer can adjust scaling and channel assignment through simple menu commands.

Serial Data Port TTDM-128 and TTSIM offer full data access via the Modbus® (J-Bus) protocol. TTDM-128 has a user selectable RS232 or RS485 serial port. TTSIM is RS485 only.

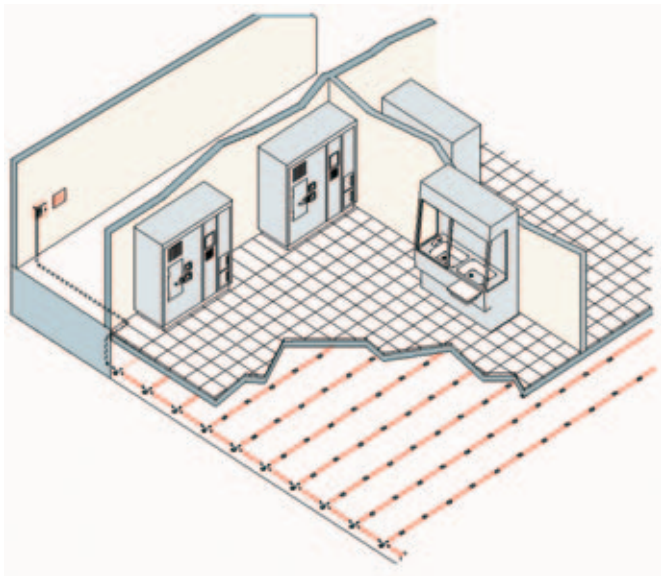
Telemetry The standard connection method between TTDM-128 and TTSIM's is twisted-pair copper wire. When network distances increase beyond 1200 meters there are other options available including: fiber optics, spread spectrum radios and cell phone-based alarm reporting.



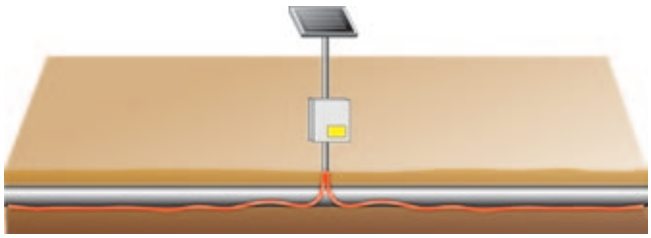
For a single small area, a TTSIM-1A can provide relay contact output to a PLC or building management system. The combination of sensor cable and a TTSIM-1A makes an effective drip tray monitoring system.



For clean rooms and similar building applications a single TTDM-128 alarm panel can monitor the entire facility for hazardous liquid spills. Here several TTSIM units are monitoring specific areas while the TTDM-128 monitors the entire network.



Knowing the leak location is important when the size of the monitored area gets larger and when the sensor cable is concealed by walls or raised floors. TTDM-128 and the TraceTek sensor cable provide excellent detection and location performance with accuracy to 1 meter.



TT5000 can be installed along a buried pipeline using a cluster of 4 TTSIM units mounted in a single enclosure. Power points are required approximately every 5 to 6 kilometers.

TraceTek and Tyco Thermal Controls

tyco
Thermal Controls

The TraceTek Leak Detection and Locating System was developed by Raychem Corporation in the mid 1980s. The TraceTek Products Group became part of Tyco Thermal Controls when Raychem Corporation was aquired by Tyco International in 1999.

Tens of thousands of TraceTek systems have been installed over the years in a variety of leak detection applications ranging from water detection in commercial buildings to hazardous fluid monitoring to leak detection for fuel storage and transportation systems. The versatility of the TraceTek technology lends itself to customized designs that detect and locate liquid leaks and spills before equipment or environmental damage becomes significant. Whether it's a matter of personnel safety, the need for 24/7 reliability, or avoiding expensive environmental clean-up costs and penalties, the TraceTek system can be a key element of your facility operating and security systems. Tyco Thermal Controls is an ISO 9001 Certified Development and Manufacturing Facility with sales and support operations in over 40 countries around the world.

Distributed By:

For more information see: www.tracetek.com
www.tycothermal.com

Or contact us at one of these locations:

USA
Tyco Thermal Controls
300 Constitution Drive
Menlo Park,
California 94025-1164
Tel. (800) 545-6258
Fax (800) 527-5703

European headquarters
Tyco Thermal Controls
Staatsbaan 4A
3210 Lubbeek
Belgium
Tel. (32) 16 213 511
Fax (32) 16 213 610
Sales: (33) 621 72 1803
(49) 171 517 8513

Asia/Middle East
Tyco Thermal Controls
B-250, Sector 26,
Noida 201301
Uttar Pradesh, India
Tel: (91) 120-254-0053
Fax: (91) 120-253-6151

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