



WE SENSE DISASTER...  
AND NOW YOU ARE IN CONTROL...

## ropeFuel sensor



The AKCP ropeFuel sensor is a rope-type leak detector that connects to any AKCP sensorProbe or securityProbe RJ-45 Intelligent Sensor Ports and facilitates the detection of fuel and other liquids.

The AKCP ropeFuel sensor provides distributed leak detection for a wide range of applications such as monitoring for fuel leaks beneath or around backup generator fuel tanks, fuel storage areas, or fuel transfer stations.

The ropeFuel sensor detects the presence of liquid hydrocarbon fuels at any point along its length. Installed with the AKCP sensor module, the sensor detects the liquid, triggers an alarm, and pinpoints the location of a leak within a meter, or a foot.

This sensor comes fully assembled including the fuel sensing rope, the non-sensing cable that connects the rope to the sensing module and the main sensing module that connects via CAT5e LAN cable to the sensorProbe\securityProbe 5E.

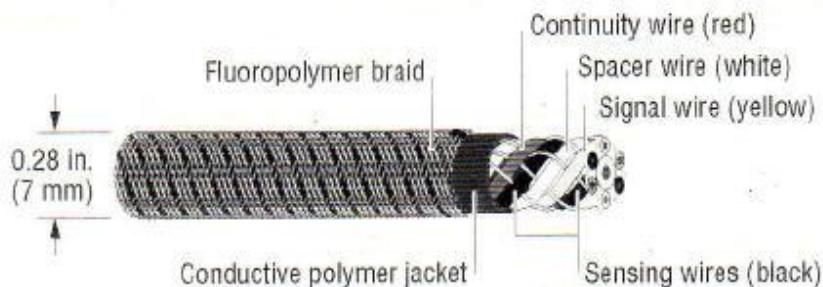
The sensor can be used to trigger alerts like email, SMS, Skype, phone calls and SNMP traps. The sensor has its own SNMP OID, so that it can be monitored over your network using any Network Management System.

### Design Flexibility

The ropeFuel sensor is available in lengths from one meter to five meters. The non-sensing twenty foot leader cable is extendable up 165 feet (50 meters).

## Advanced Technology

Radiation cross-linking and conductive-polymer technologies provide chemical resistance and tensile strength in the sensing rope. Its core consists of an alarm signal wire and a continuity wire encased in a conductive-polymer jacket in a fluoropolymer braid. This rugged construction ensures dependable reliability in the harshest of environments under the most demanding conditions.



## Specifications

- Cable Diameter: 0.28 in. (7 mm) nominal.
- Operating Temperature Range: -20°C to 60°C (-4° F to 140° F).
- Pull Force Limit: Not to exceed 50 lb.
- Bend Radius: 2 in. (50 mm) minimum.
- Pressure: Loads greater than 20 lb (9 kg) per linear inch at 20°C (68°F) may immediately trigger an alarm.
- Measurement Accuracy: Capable of detecting the presence of fuel and oil at a specific location within 1 meter, or 1 foot along the length of the sensing rope.
- Sensor Type: Patent pending, microprocessor controlled capacitance measurement technology.
- Power Consumption: Typical 125 mWatt, 25 mA.
- Comes fully assembled and includes the rope portion that is the liquid sensing cable, the non-sensing leader cable (from the rope to the sensing module) and the main sensing module. Also includes a 5 foot CAT5 extension cable.
- Communications Cable: RJ-45 jack to main sensor module using standard UTP CAT5 cable. Maximum extension cable length is 30 meters or 100 feet.
- Sensing Rope Cable can be pre-ordered from a 1 meter minimum to any custom run length of up to 5 meters.
- Non-sensing Cable comes in a standard 20 foot run length and can be extended up to 165 feet (50 meters).
- Sensor OID is .1.3.6.1.4.1.3854.1.2.2.1.18.1.3.0

**Note:** The ropeFuel sensor is only compatible with the securityProbe, securityProbe 5E and newer sensorProbe2 shipped after October 2009. If you have an older sensorProbe2 or sensorProbe8 base unit, please contact us for upgrade details.

## Features

- Power Source: Powered by the sensorProbe, or securityProbe. No additional power needed. Both units will auto-detect the presence of the ropeFuel sensor.
- Full autosense
- Sensor module LED activates when liquid is detected by the sensor.
- Sensor reports critical status if cable integrity is broken, cut, or unplugged.

## Chemical resistance

Tests confirm that the rope sensor cable functions fully in accordance with ASTM D 543, when exposed for seven days in the following liquids at 23°C (73°F):

- Sulfuric acid (10%)
- Hydrochloric acid (10%)
- Sodium hydroxide (10%)

## Response times

**Representative materials detected:** Typical response time at 20°C (68°F)

•	Gasoline	2-12 minutes (depending on the grade and type)
•	Diesel #1	60 minutes
•	Jet A\B5\8	50 – 70 minutes
•	JP-4\5\7	15 - 70 minutes
•	Kerosene	47 minutes

### Notes:

Response time test method:

1. Test procedures for third party evaluation of leak detection methods;
2. Cable sensor liquid contact leak detection systems" Response times are affected by operating temperature.
3. The sensing rope does not react to the presence of water.
4. Sensor is not recommended for sensing certain types of oil.

Diesel fuel is refined into several sub-categories or grades from highest to lowest viscosity:  
Number 1 Diesel Fuel (1-D), Number 2 Diesel Fuel (2-D) and Number 4 Fuel Diesel (4-D).

JP5 Jet Fuel see this link: <http://en.wikipedia.org/wiki/JP-5>

JP8 Jet Fuel see this link: <http://en.wikipedia.org/wiki/JP-8>

### Conformance to standards:

