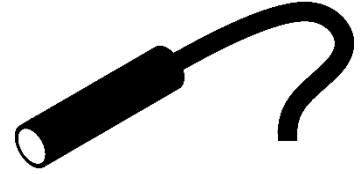


TRM Sensors LLC Data Sheet

TRM-UST-LO

Oil Sensor



Product Description

TRM-UST is sensor designed to detect the presence of lubricating oil, mineral oil and hydraulic oil in the interstitial space of a double wall pipe or tank systems. A typical application would be to monitor the normally dry space between the inner and outer wall in a double containment pipe system.

Small diameter and short length allow the probe to be installed within a drip-T or threaded through a J-tube to reach a low point in a pipe system.

TRM-UST-LO is a passive resistive device. There are no active electronic components other than resistive pathways. There are no moving parts. Excitation voltage and current requirements are very low and well within the limits of intrinsically safe operation in the most hazardous explosive atmospheres. The preferred monitoring device is TRM-Easy5-Relay

Key Features

- Fast detection of lube oil, mineral oil and hydraulic oil in the interstitial space between walls of a double wall pipe or tank.
- When monitored with TRM-Easy5-Relay, two TRM-UST-LO probes can be monitored with a separate Normally Open dry contact for each probe
- No moving parts or active electronics
- TRM-UST-LO qualifies as “Simple Apparatus” per IEC 60079-11 and can be installed hazardous areas with appropriate zener barriers.

Product Specifications

- Excitation Source: TRM-Easy5-Relay
 - 12 volts at less than 1 mA or less applied to sensor
- Dimensions:
 - 1/2" OD x 2 1/2" long (12.7 mm x 64 mm)
 - 3 m (10 ft) leader cable
- Construction: Corrosion resistance SS316 stainless steel outer tube and core rod
- Leader cable: 4 x 22 AWG tray rated cable (only two conductors are used)
- Maximum distance between probe and Relay unit:
 - 1000 feet / 300 m
- Operating Temperature:
 - Oil Detection 0°F to 200°F (-18°C to 90°C)
- Typical response times at 20C:
 - SAE 30 90 seconds
- Does not detect water and retains oil detection capability after water is removed and sensor has dried.
- Sensor cannot be reset after oil exposure
- Qualifies as “Simple Apparatus” under ANSI/UL 60079-11 and ANSI/ISA 60079-25.
- Install probe in CiD2 hazardous areas area when monitored by TRM-Easy5-Relay-U without external zener barrier.
- Install in C1D1 areas with Zener barrier (MTL 7767+ recommended).

INSTALLATION INSTRUCTIONS ON REVERSE

TRM-UST-LO INSTALLATION INSTRUCTIONS

Installation:

1. TRM-UST-LO is designed to operate in a clean and dry interstitial space between the inner and outer walls of a double wall pipe or tank system
2. The sensor is functional in any orientation. In most installations the sensor will be most effective when it is at the low point of a double containment pipe system or at the 6 o'clock position of a double wall tank,
3. Thread the sensor into the interstitial space via drip-T or J-tube to reach the low point in a pipe system or via an access riser for access to the intestinal space in a double wall tank.
4. In some pipe installations it may be possible to run jumper cable through the interstitial space to reach monitoring points. In other installations the jumper cable will be routed externally and will penetrate into the interstitial space with a cable gland at the top of a J-tube or bottom of a drip-T. In either case, proper selection of a water tight cable gland is important to prevent moisture ingress into the interstitial space.
5. TRM-UST-LO is the electrical equivalent of a simple two lead resistor. Connect the red lead to the +12V terminal at the TRM-Easy5-Relay or TRM-Easy5-Panel. Connect the black lead to either I7 or I8 at the relay or panel. (See the Relay/Panel installation instructions for additional wiring diagrams)
6. Maximum leader cable is 1000 feet (300 m)
7. It is permissible to use one dedicated pair per sensor if using multi-pair cable as the jumper.

NOTE ON PIPE AND TANK CONDITIONS: Make sure that the interstitial space is actually clean and dry. Rain water may have leaked into the interstitial space if the tank or pipe has been stored outdoors. Ventilate the interstitial space with forced air to clear any residual moisture from the space between the walls.

Important: TRM-UST-LO lube oil sensors will not reset. A sensor that has been in contact with lube oil cannot be cleaned or reused. TRM-UST-LO should be considered a "one use" sensor.