



SIGNALINE

Applications: Floating Roof Tank

Introduction

Signaline Fixed Temperature (FT) heat sensing cable is ideally suited to monitor floating top tanks. It is a simple and cost-effective form of fire detection. It provides an alarm at a choice of three predetermined temperatures.

Signaline FT is laid around the rim of the floating roof. As the tank empties the roof level falls, on larger tanks this can be as much as 20 metres. There are two methods of connecting the Signaline FT cable to the fixed gantry installation at the top of the tank; Signaline extendable cables and Signaline Auto Collector (please see below) The entire circuit can be made intrinsically safe if required.



Which Signaline Heat sensing cable is suitable

There are three different Signaline FT cables to choose from. Signaline FT-68, Signaline FT-88 & Signaline FT-105 initiating an alarm at 68°, 88° and 105°C respectively. The alarm temperature of the cable should be around 20°C higher than the anticipated tank roof ambient temperature.

In many installations the heat sensing cable will be at risk of attack from UV sun radiation, oil and other aggressive chemicals. Signaline FT-R cables offer a nylon overcoat which is resistant to UV and a wide range of fluids and chemicals. Signaline FT-R cables are available with the same alarm temperatures as the standard cables and are approved by UL.

Floating Roof to Gantry options:

Signaline extendable cables

Signaline custom built extendable / retractable cables are manufactured specifically for floating roof petro-chem storage tanks. As the roof drops lower, the spring like cable extends and as the roof rises the cable retracts into a closed spring coil. See separate data sheet

Signaline Auto Collector

When the tank is full, the cable is stowed within the Signaline Auto Collector. The Auto Collector automatically unreels the connecting cable as the roof level falls and re-reels in the cable into the collector as the roof rises. It is a mechanical device and does not require a power supply.

The cable is held at an optimised tension to prevent it flapping in high winds.

The body of the Auto Collector is manufactured from 316 Stainless Steel and is fitted with an IP65 junction box to connect with the main fire alarm system.



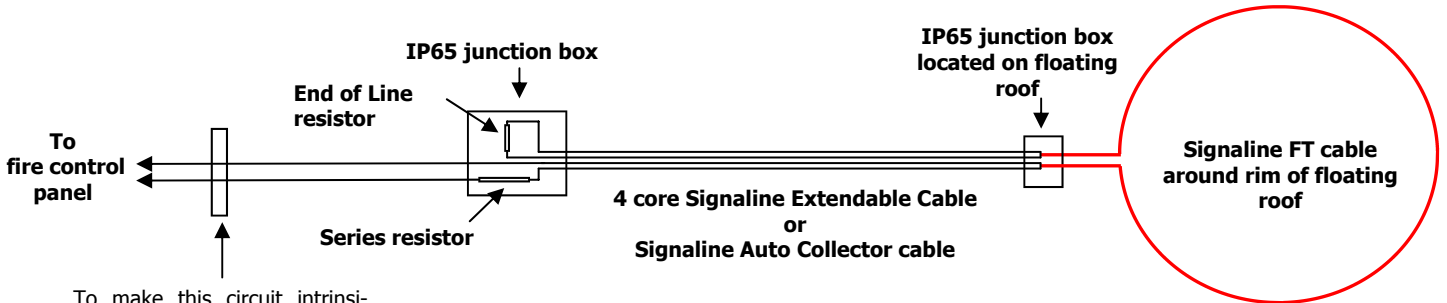
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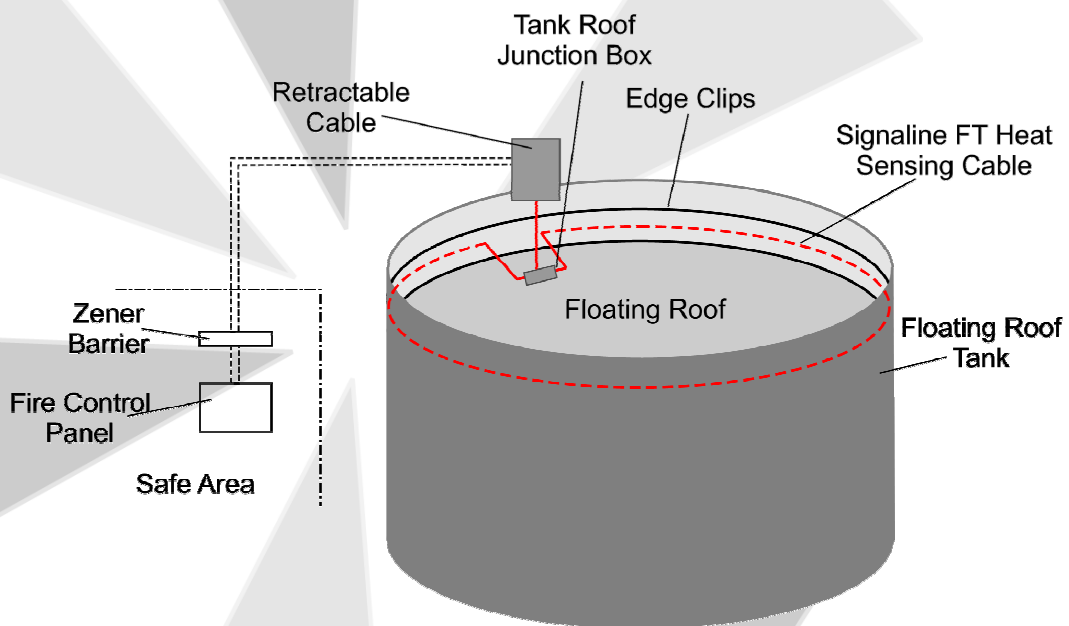
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Applications: Floating Roof Tank wiring schematic



To make this circuit intrinsically safe (EEx ia), a suitable IS barrier such as the MTL5061 is placed in the circuit as per diagram. The barrier MUST be located in the safe area of the site.

When used in conjunction with a suitably rated end of line and series resistor as shown the circuit will replicate that of a conventional point type heat detector when it is connected to the zone terminals of a conventional fire control panel. The value of the resistors will be determined by the characteristics of the fire control panel.



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