



CLEARVIEW

FLAME DETECTION FOR STORAGE TANKS

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It is standard practice to install fire detection systems on internal floater storage tanks. However, the movement of the internal floater sometimes causes problems with the internal wiring which is difficult to reach leaving the fire detection system unavailable for long periods.

For fixed roof storage tanks with an internal floater roof Saval has developed ClearView. With this solution all equipment and cabling is installed externally of the storage tank.

CLEARVIEW GLASS

During maintenance or repair work the tank can remain in service even when the detector is dismantled because the ClearView glass ensures a constant seal preventing the release of hazardous vapours. The see-through glass ensures the separation between the ATEX zone 0 in the tank and the outside air, so that the tank remains closed.

The Clearview glass is mounted in an exchangeable module, so that contaminated glass can be easily replaced or cleaned.



DET-TRONICS FLAME DETECTORS

ClearView is specially designed to be used in combination with 3xIR Det-Tronics flame detectors. This is a very versatile and reliable detector. It provides the earliest response to the smallest fires and the highest level of false alarm rejection. Its multi-fuel off-axis detection provides the largest area of coverage, making it an economic choice.

APPLICATION

A set of 3 flame detectors are to be used on each storage tank. These are installed with a spacing of 120° around the tank roof. The maximum distance between the detector and the fire is achieved when the tank is nearly empty. In general a fire of 120cm x 30cm in the foam dam is easily achieved and acceptable. This results in a maximum detection range of 90m when for example diesel is used.

The maximum detection distance for other fuels with the same fire size are:

- + Heptane 136 meters
- + Isopropanol 61 meters
- + Ethanol 108 meters
- + Methanol 77 meters

SPECIFICATIONS

System components	<ul style="list-style-type: none">+ Multi spectrum infrared flame detector providing detection of fires from light to heavy hydrocarbon fuels (typical 3 flame detectors to cover the complete tank surface).+ Roof tank connection set, the interface between detector and tank roof.+ Separately available exchangeable glass module. <p>Roof side interface design plans (roof modification in customer supply).</p>
Operating voltage	24 Vdc nominal (18 Vdc minimum, 30 Vdc maximum). Maximum ripple is 2 volts peak-to-peak.
Power consumption	4 watts minimum (without heater), 17 watts at 30 Vdc with EOL resistor installed and heater on maximum.
Relays	Contacts rated 5 amperes at 30 Vdc.
Fire alarm	<ul style="list-style-type: none">+ Form C (NO and NC contacts)+ Normally de-energized+ Latching / non-latching
Fault	<ul style="list-style-type: none">+ Form A (NO contacts)+ Normally energized+ Latching / non-latching
Auxiliary	<ul style="list-style-type: none">+ Form C (NO and NC contacts)+ Normally energized / de-energized+ Latching / non-latching



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