

DATA SHEET



PRODUCT OVERVIEW

nVent RAYCHEM Tracetek Fast Fuel Sensor is a fast acting probe designed to detect hydrocarbon fuel floating on water, spreading on a flat surface or collecting in a sump. The probe ignores water, but detects a thin film of fuel floating on the surface.

Reaction time for the probe is typically a few seconds for light or middle weight fuels such as gasoline, jet fuel, and diesel. It is also responsive to crude oil and some heavier weight fuels and heating oils but becomes progressively slower as the fuel volatility decreases.

The Fast Fuel Sensor meets the FM 7745 Approval Standard for Diesel Leak Detectors for detecting Diesel Fuel leaks in commercial buildings. It improves the safety of diesel generators used for back-up electrical power, reducing the risk of fire if a leak were to occur. The Fast Fuel Sensor may be used for the same purpose near oil storage tanks used to fuel boilers or other heating related equipment in commercial buildings.

In many cases the FFS probe will reset after the probe is removed from contact with the spill and the fuel is allowed to evaporate. Some heavier fuels require that the sensor be soaked in isopropyl alcohol or naphtha in order to clear the heavier fuel residuals.

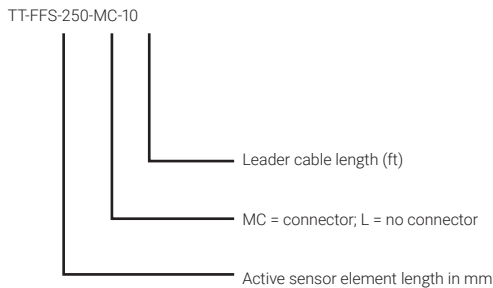
The sensor may be used repeatedly without replacement until it will no longer reset. The probe fails in the "alarm" state so there is no ambiguity when it is necessary to replace the probe.

TT-FFS probes are designed to work only with Tracetek leak detection instruments, and are not suitable for use with other non- Tracetek circuits. The probe may be periodically tested using a small amount naphtha (lighter fluid). The probe resets when the naphtha evaporates.

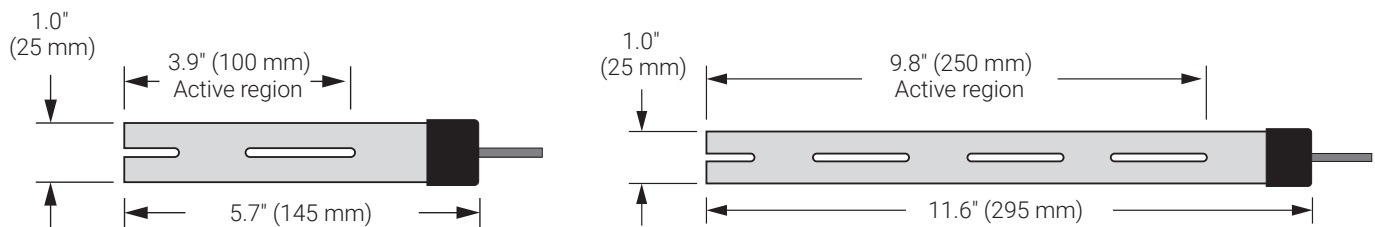
Design features

- Fast response to small amount of fuel
- Resets for multiple uses
- Easily tested
- Compatible with Tracetek Instruments
- Intermix up to 3 FFS probes with TT5000 sensor cable per TTSIM to form hybrid cable and probe systems
- Suitable for installation in CID1 (Zone 0) with appropriate safety barrier
- SIL-2 Rated Safety System Component

FFS Probes without Connectors		FFS Probes with – MC Series Metal Connectors	
Part number	Description	Part number	Description
P00000984	TT-FFS-100-L-1	P00000990	TT-FFS-100-MC-1
P00000985	TT-FFS-100-L-3	P00000991	TT-FFS-100-MC-3
P00000986	TT-FFS-100-L-10	P00000992	TT-FFS-100-MC-10
P00000987	TT-FFS-250-L-1	P00000993	TT-FFS-250-MC-1
P00000988	TT-FFS-250-L-3	P00000994	TT-FFS-250-MC-3
P00000989	TT-FFS-250-L-10	P00000995	TT-FFS-250-MC-10



DIMENSIONS



PRODUCT CHARACTERISTICS

External diameter	1 inch (25.4 mm)
Color	Orange
Tube material	Polypropylene with static charge reduction additive
Leader cable	4 x 22 AWG, polyurethane jacketed, fuel resistant
Connector	Tracetek "MC" series compatible with all Tracetek MC components and cable Note: FFS is wired in "End Termination" configuration

OPERATING ENVIRONMENT INFORMATION

Operating/storage temperature	-40°F to 185°F (-40°C to 85°C) dry
Salt water immersion	Tested for 30 days in 3% salt water at 20°C without failure or degraded response
Hot water immersion	Tested for 30 days in 60°C water without failure or degraded response
Acid resistant	24 hours in 10% H ₂ SO ₄ or 10% HNO ₃ without failure or degraded response

Note: The TT-FFS is not designed for permanent immersion in water. The above immersion test information is intended as a guide to the probe's water resistant capabilities.

RESPONSE TIME

Representative materials detected	Typical response time at 20°C
Gasoline	Less than 5 seconds
Jet A fuel	Less than 5 seconds
Diesel	Less than 5 seconds
Naphtha	Less than 5 seconds
MTBE (Methyl Tert-Butyl Ether)	12 seconds
Crude oil	3 minutes
Biodiesel (B100)	45 seconds

Note: Time to alarm observed in the field is dependent on equipment configuration and field conditions.

APPROVALS



IS/Class I, Div. 1, Groups A, B, C, D/T4; Class I Zone 0, AEx ia IIC T4
NI/Class I, Div. 2, Groups A, B, C, D/T4; Class I Zone 2, Group IIC T4



IEC 61508 Safety Integrity Level -2 (when used with TTC-1)
Ref BN/PTX/CB859/1580190/06/R/216/0

Baseefa11ATEX0221X
IECEX BAS 11.0111X



Ex ia IIC T4 Ga (-40°C ≤ ta ≤ +85°C) (U_i = 15V)
Ex ia IIA T4 Ga (-40°C ≤ ta ≤ +85°C) (U_i = 28V)

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