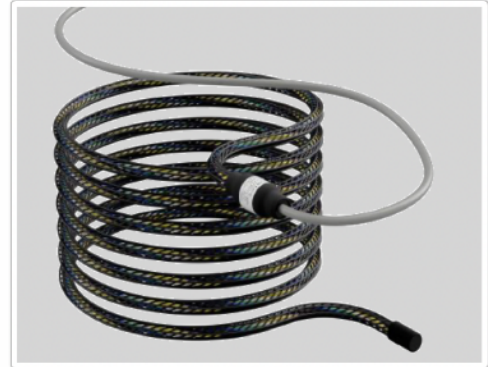


FLD-PHD

Hydrocarbon Sensor Cable

The FLD-PHD is a high-performance passive hydrocarbon detector designed specifically for installation outdoor in challenging environments. This sensor cable is used to detect the unwanted presence of non-conductive hydrocarbon fluids. The detected fluids are primarily crude oils, refined products, solvents, and their vapors. The FLD-PHD sensor cable is offered as stand-alone sensor connected in factory with 10 ft (3 m) direct-burial/UV-resistant leader cable. On request, the length of the leader cable can be extended up to 1000 ft (300 m).



The sensor is specially engineered for reliable operation at very low temperatures and is suitable for polar applications. It is fully sealed and not affected by permanent immersion in water, year after year. The length of the sensing section is limited to 50 ft (15 m). The semi-conductive sensor material is extremely durable and can withstand exposure to temperatures in excess of 212°F (100°C). The sensor cable is fully passive, anti-termite and anti-rodent and can be used in sealed/buried applications.

When used for applications in hazardous areas, the sensor cable will be wired to an intrinsically-safe sensor box, or alternatively through a Zener barrier to a sensor module installed in the safe zone. Please contact Naftosense for additional information.

Features and Benefits

- Detects reliably heavy crude oil and refined products at very low temperatures
- Reusable after contamination
- Fully passive construction
- Insensitive to vibrations, methane, water
- Very wide operating temperatures range
- Able to detect quickly fumes/vapors diffused in the soil or above ground
- 10-year warranty

Typical Applications

- Remote Oil & Gas facilities
- Leak detection in valve vaults within refineries, tank farms, etc.
- Monitoring of oil-filled power transformers, lube oil storage tanks, etc.
- Leak detection in downstream and fuel retail facilities (turrets)

FLD-PHD

Hydrocarbon Sensor Cable

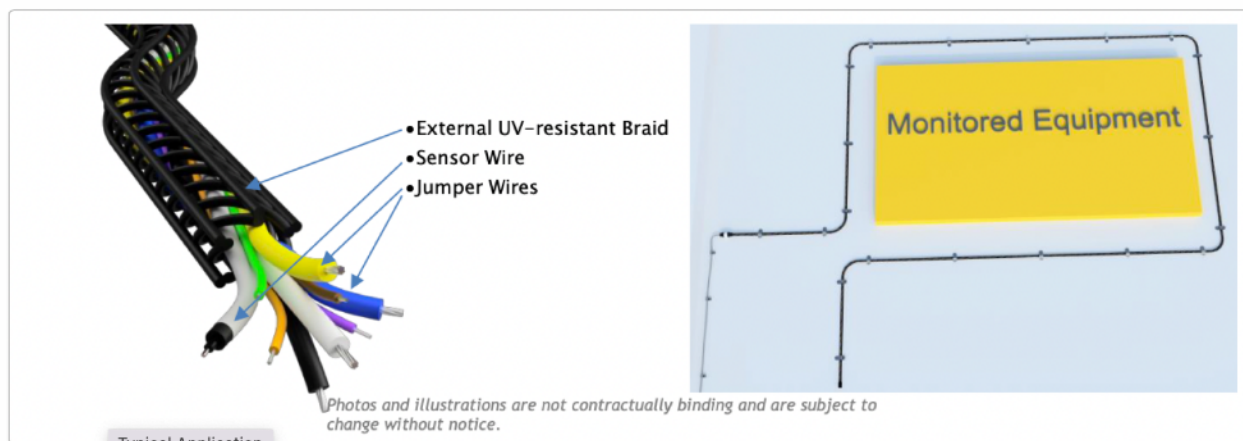
Agency Approvals

- In the US: Simple element, intrinsically safe - Class I, Division 1, Groups A, B, C and D, Class I, Zone 0, AEx ia IIC
- Atex: Simple element, intrinsically safe – II 1 G, Ex ia IIC Gb T4
- IECEx: Simple element, intrinsically safe – Ex ia IIC Gb T4

Technical Information

Typical Detection Time at 68°F (20°C)	
Unleaded Gasoline	1 minute 20 seconds
Diesel/Jet Fuel	2 minutes
Light Crude Oil	6 to 8 minutes
Heavy Crude Oil, Dilbit	12 to 16 minutes
Motor/Silicone Oil	16 to 19 minutes
Bunker C Oil	45 to 55 minutes

Sensor Cable Construction and Typical Application



FLD-PHD

Hydrocarbon Sensor Cable

Technical Data	
Operating Life	30+ years at 104°F (40°C) - 10-year warranty
Weight	0.044 lb / ft (120 g / m)
Fire Rating	Non-flame propagating
Ingress Rating	IP68 - suitable for outdoor/direct burial
Operating Temperature Range	-67°F to 212°F (-55°C to 100°C)
Recommended Maximum Section Length	50 ft (15 m)
Hazardous Locations Classification	IS/ I/ 1/ ABCD/ T4 ; I/ 0/ AEx/ ia IIC T4 ; Class I, Zone 0, Ex ia T4 Class I, Div. 1, Groups A,B,C,D; T4 II 1 G Ex ia IIC T4 Ga
Warranty	10 years

Attention! The sensor cable FLD-PHD can only be used with sensor modules manufactured by Naftosense. Other applications will lead to unpredictable performance and unexpected results. For performance metrics, please contact Naftosense.

Product Codes	
FLD-PHD-10	Sensor cable for hydrocarbon fluids - 10 ft (3 m) sensor with 10 ft (3 m) leader cable
FLD-PHD-25	Sensor cable for hydrocarbon fluids - 25 ft (7.6 m) sensor with 10 ft (3 m) leader cable
FLD-PHD-50	Sensor cable for hydrocarbon fluids - 50 ft (15 m) sensor with 10 ft (3 m) leader cable

Custom lengths for both sensor and leader sections are available from Naftosense. Please consult for pricing options.