

## FLD-FBS

## Monitoring Module

FLD-FBS is an intrinsically safe high-performance monitoring module designed for detecting leaks of refined products or crude oils in extreme environmental conditions. The device is engineered for outdoor installation in challenging environmental conditions. The measurement frontend is designed for interfacing with reusable, fully passive hydrocarbon sensor cables and sensing probes manufactured by Naftosense.

The multiplexed architecture of the acquisition module allows up to 8 individual sensor sections not exceeding 82 ft (25 m) per FLD-FBS.

Advanced measurement techniques and data treatment algorithms are used to provide intelligent thresholding for eliminating the nuisance alarms due to the presence of motor/lube oils, greases, residues of old leaks, etc.

This monitoring module is controlled through the Naftosense ERBUS proprietary field bus allowing reliable communication over distances exceeding 6.2 Miles (10 km). ERBUS provides also provides low voltage power supply to each FLD-FBS from a single multiplexed lead wire attached to a FLD-TSP7 or FLD-SMP-MB.

FLD-FBS is approved for installation in classified locations according to FM, Atex, IECEx and other North American approvals. Designed only to be used with all Naftosense sensors and FLD-TSP7 and FLD-SMP-MB controllers.

### Features and Benefits

- Detects reliably viscous hydrocarbons at very low temperatures
- True multi-leak capability
- Real-time transmission of sensor contamination
- Intelligent thresholding with adjustable sensitivity
- Low power consumption for reliable remote monitoring over long distances
- Very wide operating temperatures range
- Able to detect the vapors diffused in the soil after spill from underground pipes
- 10-year warranty



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### Typical Applications

- Leak detection in Oil & Gas facilities
  - Detection of leaking fuel from airport hydrant systems, military, custody transfer generators and plumbing in demanding environments installations in harsh outdoor, demanding environmental conditions
  - Leak detection in refineries, tank farms, mainline pipe sections, or repair sites
  - Leak detection in commercial buildings, downstream and fuel retail facilities
- Technical Information - Acquisition Module FLD-FBS

### Agency Approvals

Approved for use in:

- In the US: Intrinsically safe - Class I, Division 1, Groups A, B, C and D, Class I, Zone 0, AEx ia IIC
- Atex: Intrinsically safe - II 1 G, Ex ia IIC Gb T4
- IECEx: Intrinsically safe - Ex ia IIC Gb T4
- Tested by FM Approvals for compliance as per FM Class 3610

#### Typical Detection Time at 68°F (20°C) with FLD-HSC Sensor Cable

Unleaded Gasoline	1 minute 30 seconds
Diesel/Jet Fuel	2 to 3 minutes
Light Crude Oils	6 to 8 minutes
Motor/Hydraulic/Silicone Oils	16 to 19 minutes
Bunker C Oil	45 to 55 minutes

#### Technical Data

Dimensions	2.52" x 2.592" x 1.575" (64 x 65.8 x 40 mm)
Weight	0.67 lb (345 g)
Fire Rating	UL94-HB
Ingress Rating	IP67/NEMA4X - suitable for outdoor/direct burial

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Technical Data	
Operating Temperature Range	104°F to 176°F (40°C to +80°C)
Power Supply Voltage Range	12 - 20 VDC
Mounting	Wall-mounted or tie-wrapped to a suitable solid support
Hazardous Locations Classification	IS/ I/ 1/ CD/ T4 ; I/ 0/ AEx/ ia IIB T4 ; Class I, Zone 0, Ex ia T4 Class I, Div. 1, Groups C,D; T4 II 1 G Ex ia IIB T4 Ga
Warranty	10 years

Warning! This is an agency-approved product. It shall be installed according to the corresponding hazardous location certificates. Any deviation from the conditions of use defined in the Control Drawing is strictly prohibited.

Product Codes	
FLD-FBS-3-xxx	Acquisition module for up to 3 sensors (monitoring by ERBUS proprietary bus).
FLD-FBS-8-xxx	Acquisition module for up to 8 sensors (monitoring by ERBUS proprietary bus).