# TTK
## LIQUID LEAK DETECTION SYSTEMS
## OIL & GAS DIVISION

# FG-ODR
## Low Sensitivity Addressable Oil Sense Cable

### Product Datasheet

► Low Sensitivity
► Suitable for volatile liquids in confined environments
► Suitable for weakly polluted environments
► Leak Location on Section Length
► Re-usable and Pre-connected Cable
► Suitable for Explosive Area Service
► Insensitive to Water and Inorganic Pollutants

## Description

The TTK digital sense cable FG-ODR detects and locates liquid hydrocarbons and certain water-insoluble liquids and their vapors anywhere along its length. The sensor element is optimized for using with volatile liquids in confined environments and weakly polluted environments.
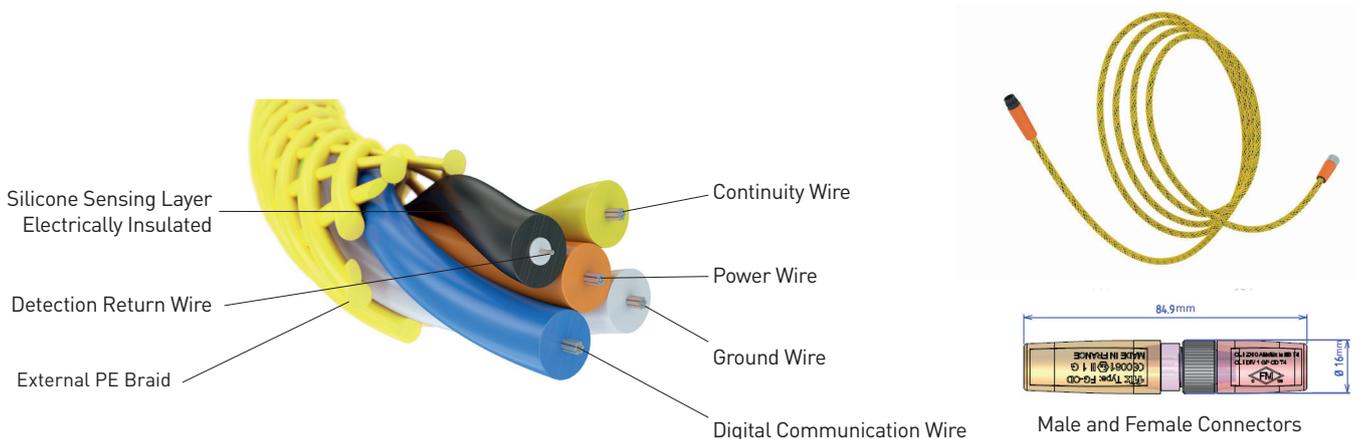
Thanks to its embedded microchip, each cable has independent digital addressing, enabling multiple leak detections on a panel output. It offers a fast response, is reusable after detection, and remains unaffected by water or inorganic contamination, making it ideal for humid environments.

## Key Advantages

- Standard length (3, 7, 12 and 20 m) sensor sections or long line section allowing optimised system architecture.
- Microprocessor embedded in each FG-ODR sense cable allowing independent digital transmission to the alarm unit.
- Standard length sense cable provided with built-in plug-socket connector.
- Long line provided with built-in intermediate embedded connections (for each section), plus connector at extremities on demand.
- Structure of the sense cable comprising a silicon sensing wire, a continuity wire, a communication wire (proprietary bus) and the power supply wires. Protective external PE braid built on the cable.
- Intrinsically safe - can be used in classified areas: Ex ia IIB T4 Ga (IECEx "Zone 0").

- Reliable detection:
  - Sensitive to volatile liquid hydrocarbons.
  - Insensitive to water, inorganic pollutants and external loads (pressure).
- Can be reused, allowing leak detection tests under real conditions.
- Examples of detection time: **Gasoline: 20-30 minutes (*), Jet Fuels: 2-4 hours (*), Diesel Oil: 3-6 hours** (*).
- Detects and locates hydrocarbon leaks on the section length.
- The same unit FG-NET can be connected to FG-ODR sense cables and mixed with water or acids / bases sense cables at the same time.
- Easy to install and remove: standard FG-ODR cables pre-connected with male / female connectors.

  Note (*): depending on liquid composition and leak conditions

## Cable Structure



- Silicone Sensing Layer Electrically Insulated
- Detection Return Wire
- External PE Braid
- Continuity Wire
- Power Wire
- Ground Wire
- Digital Communication Wire

Male and Female Connectors

84,9mm

Ø 16mm

# Technical Data

| | |
|---|---|
| **Conmpatibility** | Digital units: FG-NET*, FG-NET-LL, FG-ALS8-OD, FG-ALS4-OD, FG-A-OD<br>Satellite devices: FG-BBOX*, FG-BBOX-LL<br>Sense cables: Compatible with water and acids sense cables on the same panel output via an interface box.<br>(*FG-DOD interface box required for connecting OD range cables/probes to non-OD range panels) |
| **Reusability** | Reusable |
| **Sense Cable Material & Nominal Diameter** | PE, 10 mm |
| **Sensor Wires Diameter & Material** | PE, 2 mm |
| **Sense Cable Weight (3, 7, 12, 20 m)** | 0.3 kg, 0.6 kg, 0.8 kg, 1.37 kg |
| **Minimum Bend Radius** | 50 mm |
| **Sense Cable Color** | Yellow braid |
| **Operating Temperature** | -30° to 100°C |
| **Maximum Pressure** | 3 bar |
| **Maximum Tensile Strength (incl. connection)** | 40 kg |
| **Connector Nominal Diameter** | 16 mm |
| **Connector Ingress Protection (IP Rating - DIN/ EN/IEC60529)** | IP 68 |
| **Explosive Area Classification** | Ex ia IIB T4 Ga (ATEX "Zone 0") |
| **Direct Burial Capacity** | Possible |

# Identification Codes

| | |
|---|---|
| **FG-ODR3** | Addressable Oil Sense Cable in 3 m with Connectors |
| **FG-ODR7** | Addressable Oil Sense Cable in 7 m with Connectors |
| **FG-ODR12** | Addressable Oil Sense Cable in 12 m with Connectors |
| **FG-ODR20** | Addressable Oil Sense Cable in 20m with Connectors |
| **Accessories:** | |
| **FG-CLOD** | Leader Cable, on OD Bus 8771 |
| **FG-TMOD** | Digital End Plug on OD Bus 8771 for FG-OD Cable |
| **FG-NOD 'N'** | OD Bus 8771 Neutral Cable 'N' (1, 3, 7, 15, 30 m) with Connectors |
| **CF-OD50** | 50 Hold-down Clips with Adhesive for Oil Cables |
| **ES-OD** | 40 Tags for Oil Cable |

# Certifications



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TTK - Type: FG-OD
CE 0081 (Ex) II 1 G
Ex ia IIB T4 Ga
LCIE 13 ATEX 3082 X
LECEx LCIE 13.0072X
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