



LIQUID LEAK DETECTION SYSTEMS

OIL & GAS DIVISION

FG-NET-LL

Long Line Digital Unit for Hydrocarbon Leak Detection Sense Cables

Product Datasheet



- ▶ Digital, Fully Addressable
- ▶ Monitoring Up to 3540 m FG-OD Sense Cables
- ▶ Touchscreen Interface
- ▶ Dynamic Leak Evolution Analysis
- ▶ TCP/IP & MODBUS/JBUS Connection
- ▶ Exclusive for FG-OD Range of Sense Cables

Description

The FG-NET-LL digital unit is designed to be used with TTK FG-OD range of digital sense cables, specifically for Long Line industrial applications. In the event of a fault on the sense cables (leak or cable break), the unit responds with:

Primary Responses:

- Audible & Visual Alarm: An alarm is triggered, and a relay is activated.
- Leak Location Display: The touchscreen panel displays the precise location of the leak on the affected sense cable, along with fault details (leak or cable break), including the time and date of occurrence.
- Optional Visual Mapping: Integrated maps highlight the fault location directly on the FG-NET-LL's touchscreen display.

Secondary Advanced Responses :

- System Integration: Reports to the DCS/SCADA/Safeguarding System via the JBUS/MODBUS protocol, with the ability to drive dynamic drawings on the host system.
- Real-Time Alerts: Sends email notifications and SNMP traps to a LAN-connected DCS/SCADA/Safeguarding System via a standard Ethernet connection.

Key Advantages

- Precise & Reliable Leak Detection: detects and pinpoints leaks on the relevant sense cable with high accuracy.
- Dynamic Leak Evolution Analysis: Tracks the magnitude and progression of a leak over time through alarm logs. The sequence and timestamps of addressable sections reporting a leak provide real-time monitoring of its development.
- Independent Cable Monitoring: The reaction time is adjustable for each cable, and each sense cable is fully addressable with a custom name for easy identification.
- Advanced Fault Management: Detects multiple simultaneous leaks (up to 177 alarms for 177 cables) and maintains system integrity by continuing to monitor all preceding cables in case of a break.
- Flexible Isolation & Configuration: Offers temporal isolation (up to 72 hours) on selected cables and provides different security levels to ensure maximum protection.
- User-Friendly & Scalable System: Features a 7" touchscreen, non-volatile memory (SD card) for storing settings and drawings, and easy expansion without additional power sources or zoning panels.
- Seamless Integration & Smart Alerts: Communicates with Trend DCS via TCP/IP & MODBUS/JBUS, and sends real-time alerts via email and SNMP traps for proactive monitoring.

Touchscreen Menus

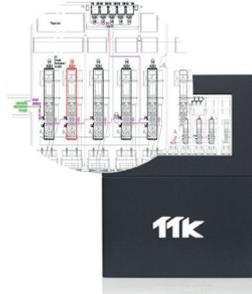
Four menus available for configuration of the FG-NET-LL:

Setup	Main page for setting up the system architecture, cable isolation and reaction time rules, acknowledge mode, user access, relay status, time zone, language, sound alarm, serial links and network functionalities. An administrator level password is required to access this menu.
Event log	For viewing the recorded alarm history. A maximum of 5000 events can be displayed on the screen.
Cables	To give the user a general overview of the site installation. The interactive floor plan can be viewed under this menu as an optional feature.
Help	Provides troubleshooting procedures, contact details of the manufacturer and the reference number of the unit.

Screen Shots



Simultaneous alarms displayed on one screen



Dynamic map shows leak in real time



Easy setup of relays for each cable



User-friendly interface of configuration

Technical Data

Compatibility	Digital sense cables and probes: OD range of cables Satellite devices: FG-BBOX, FG-BBOX-LL, FG-RELAYS Interface box: FG-DOD
Dimensions & Weight	Wall mounted: W: 228 mm W x 303 mm H x 67 mm D Weight: 2 kg Rack mounted: 483 mm W x 177 mm H x 74 mm D Weight: 2.3 kg
Sensor Capacity	177 sense cables (59 cables x 3 circuits)
Location Accuracy	Relevant sense cable
Operating Languages	English, French, German
Supply Voltage	100-240 VAC, 50/60 Hz
Current	0.3 A (120 V), 0.16 A (230 V)
Power Consumption	36 VA Max
Operating Temperature	-15°C to 55°C
Case Type	ABS flame retardant UL94V0
Screen Size	7"
Format	Wall mounted & 19" rack mounted
Ingress Protection	IP40 - Indoor use only
Serial Connection	MODBUS/JBUS RS232 or RS422/485
IT Security	TCP/IP connection (IPv4, IPv6) & MODBUS/JBUS Secure connection (Log-In Trap, HTTPS with TLS1.2, RFC 5280: X.509 (PKIC and CRL profile), IEEE 802.1X support, RADIUS or EAP-TLS)
Network	10/100BASE-T; IPv4/IPv6
Numbers of Relays	9 (8 + 1 power failure relay)
Relay Types	Volt free dry contact (NO, NC, COM)
Power Failure Relay	Activated on loss of supply voltage
Type of Faults Available on the Configurable Relays	Leak, cable break, common fault
Maximum Relay Switching Voltage	125 VAC and 220 VDC
Maximum Relay Switching Capacity	60 W (30 V x 2A)

Identification Codes

FG-NET-LL F	Digital Touchscreen Leak Detection Panel (wall mounted)
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Certifications



FG-NET-LL leak detection and locating system is UL Listed.
FG-OD sense cables which are certified by ATEX can be connected to the FG-NET-LL digital unit.

All the connections in the FG-NET-LL digital unit must be done with the power supply switched off.
Read carefully the installation procedure for the FG-NET digital unit.

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