



- ▶ FG-NET Satellite Device
- ▶ Monitoring up to 118 Lengths of Sense Cables
- ▶ Dynamic Leak Evolution Analysis
- ▶ Location of Faults on Cable
- ▶ Exclusive for Hydrocarbon Detection

## Description

The FG-BBOX-LL is a satellite device of the TTK FG-NET digital unit. It is designed to be connected with FG-OD oil leak detection range of sense cables, specifically for Long Line industrial applications.

Similar to FG-BBOX, the FG-BBOX-LL is monitored by FG-NET via a standard Ethernet network. It expands FG-NET to manage two additional circuits of sense cables with up to 118\* (2 x 59) addresses of additional sense cables.

In the event of a fault on the sense cables connected to the FG-BBOX-LL, the relevant relay contact is activated and the LED on the relevant circuit switched to red.

On the FG-NET unit, the alarm appears on its touch screen, the responses are identical as a fault on the sense cable physically connected on the FG-NET unit.

\*: Calculated based on typical connection as: hydrocarbon sense cables at 12 m each, connected with 1000 m jumper cable (on one circuit) and Zener barrier MTL7760ac or equivalent. Other configurations are possible, consult us for details.

## Key Advantages

- Scalable & Future-Proof: Up to 16 FG-BBOX-LL units can be added to a single FG-NET system (without exceeding a total number of 500 digital sense cables per FG-NET) ensuring long-term expandability without additional power sources or zoning panels.
- Advanced Fault Management: Detects multiple simultaneous leaks (up to 118 alarms for 118 cables) and maintains system integrity by continuing to monitor all preceding cables in case of a break.
- Compact & Easy to Conceal: The FG-BBOX-LL has no display but features a luminous logo (green or red) for real-time status identification. It can be installed discreetly while all command and control remain centralized on the FG-NET unit.
- 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.
- Reliable & Intelligent Monitoring: Detects cable break faults while maintaining system integrity by continuing to monitor all preceding cables.
- Smart Connectivity & Alerts: Uses TCP/IP (RJ45 Ethernet) for easy integration with BMS via MODBUS/JBUS, and features 4 relay outputs.
- Customizable & Secure: Each sense cable is fully addressable and can be renamed, ensuring clear identification and easy system management.

# Technical Data

<b>Compatibility</b>	Digital units, satellite devices: FG-NET, FG-NET-LL, FG-RELAYS Digital sense cables and probes: OD range of cables Interface box: FG-DOD
<b>Dimensions &amp; Weight</b>	175 mm W x 220 mm H x 55 mm D 0.8 kg
<b>Sensor Capacity</b>	118 lengths of sense cables (59 x 3 circuits)
<b>Location Accuracy</b>	Relevant sense cable
<b>Operating Languages</b>	NA
<b>Supply Voltage</b>	100-240 VAC, 50/60 Hz
<b>Current</b>	0.13 A (120 V), 0.07 A (230 V)
<b>Power Consumption</b>	15 VA Max
<b>Operating Temperature</b>	-15°C to 55°C
<b>Case Type</b>	ABS flame retardant UL94V0
<b>Screen Size</b>	No screen
<b>Format</b>	Wall mounted
<b>Ingress Protection</b>	IP40 - Indoor use only
<b>Serial Connection</b>	MODBUS/JBUS RS232 or RS422/485
<b>IT Security</b>	TCP/IP connection (IPv4, IPv6) & Log-In Trap, HTTPS with TLS1.2, RFC 5280: X.509 (PKIC and CRL profile, IEEE 802.1X support, RADIUS or EAP-TLS)
<b>Network</b>	10/100BASE-T; IPv4/IPv6
<b>Numbers of Relays</b>	4 (2 leak + 1 break common fault + 1 power failure relay)
<b>Relay Types</b>	Volt free dry contact (NO, NC, COM)
<b>Power Failure Relay</b>	Activated on loss of supply voltage
<b>Type of Faults Available on the Configurable Relays</b>	Non-configurable
<b>Maximum Relay Switching Voltage</b>	125 VAC and 220 VDC
<b>Maximum Relay Switching Capacity</b>	60 W (30 V x 2A)

## Identification Codes

<b>FG-BBOX-LL F</b>	FG-NET's Satellite Device - 2 Circuits Black Box (Wall Mounted) 100-240VAC for "TTK Bus 8771"
<b>FG-NET F</b>	Digital Touchscreen Leak Detection Panel (Wall Mounted)
<b>FG-NET E</b>	Digital Touchscreen Leak Detection Panel (Rack Mounted)
<b>FG-NET-LL F</b>	Digital Touchscreen Leak Detection Panel (wall mounted) 100-240VAC for "OD Bus 8771"

## Certifications



ATEX certified FG-OD range of sense cables and probes can be connected to the FG-BBOX-LL unit.

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

This brochure has been carefully prepared to ensure technical accuracy but is only intended for promotional use. TTK cannot guarantee that the information contained herein contains no errors or omissions, and hence does not accept responsibility related to the use of its equipment. TTK maintain its obligations set forth in the Standard Terms and Conditions of Sale and will not, under any circumstances, assume liability for any incidental damages, indirect or consequential, arising from the sale, resale, use or misuse of this product. The purchaser(s) accept their responsibility as the sole judgment(s) of the adaptability of the product for the intended use.  
FG-NET, FG-SYS and TOPSurveillance are trademarks of TTK S.A.S. © TTK 2025

- **TTK UK Ltd.** / 3 Luke Street / London EC2A 4PX / United Kingdom / T : 0207 729 6002 / F : 0207 729 6003 / [www.ttkuk.com](http://www.ttkuk.com) / [sales@ttkuk.com](mailto:sales@ttkuk.com)
- **TTK Pte Ltd.** / #09-05, Shenton House, 3 Shenton Way / Singapore 068805 / Tel.+65-6220.2068 / Mob: +65.9271.6191 / Fax: +65-6220.2026 / [www.ttk.sg](http://www.ttk.sg) / [sales@ttk.sg](mailto:sales@ttk.sg)
- **TTK Asia Ltd.** / 2107-2108 Kai Tak Commercial Building / 317 Des Voeux Road Central / Hongkong / Tel.+852.2858.7128 / Fax.+852.2858.8428 / [www.ttkasia.com](http://www.ttkasia.com) / [info@ttkasia.com](mailto:info@ttkasia.com)
- **TTK Middle East FZCO** / Building 6EA, Office 510 PO Box 54925 / Dubai Airport Free Zone / UAE T: +971 4 70 17 553 / M: +971 50 259 66 29 / [www.ttkuk.com](http://www.ttkuk.com) / [cgalmiche@ttk.fr](mailto:cgalmiche@ttk.fr)
- **TTK Headquarters** / 19 rue du Général Foy / 75008 Paris / France / T : +33.1.56.76.90.10 / F : +33.1.55.90.62.15 / [www.ttk.fr](http://www.ttk.fr) / [ventes@ttk.fr](mailto:ventes@ttk.fr)