



LIQUID LEAK DETECTION SYSTEMS

FG-BBOX

Digital Black Box

Product Datasheet



- ▶ FG-NET Satellite Device
- ▶ Digital, Fully Addressable
- ▶ Monitoring Up to 1200m Sense Cables
- ▶ Detection with Location of Faults

Description

The FG-BBOX is a satellite device of the TTK FG-NET Digital Unit. It 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 1200 m of additional sense cables.

The FG-BBOX can be connected with all TTK digital sense cables, for water, acids and oil leak detection.

In the event of a fault on the sense cables connected to the FG-BBOX, 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 touchscreen, the responses are identical as a fault on the sense cable physically connected on the FG-NET unit.

Key Advantages

- Scalable System: Up to 25 FG-BBOX 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.
- Precise & Simultaneous Leak Detection: Detects and pinpoints multiple leaks at once for water, acids and hydrocarbon leak.
- 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.
- Real-Time Indicator Light: The FG-BBOX 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.

Technical Data

Compatibility	Digital unit: FG-NET Digital sense cables: FG-EC, FG-AC, FG-OD range Analog sense cables (via FG-DTCS box): FG-ECS, FG-ACS Diversion / Interface boxes: FG-DTC, FG-DTCS, FG-DCTL, FG-DOD
Dimensions & Weight	175 mm W x 220 mm H x 55 mm D 0.8 kg
Sensor Capacity	80 lengths of sense cable (40 x 2 circuits)
Location Accuracy	Water & acids leak detection: +/- 1 m Oil leak detection: section
Operating Languages	NA
Supply Voltage	100-240 VAC, 50/60 Hz
Current	0.13 A (120 V), 0.07 A (230 V)
Power Consumption	15 VA Max
Operating Temperature	-15°C to 55°C
Case Type	ABS flame retardant UL94V0
Screen Size	No screen
Format	Wall mounted
Ingress Protection	IP40 - Indoor use only
Serial Connection	MODBUS/JBUS RS232 or RS422/485
IT Security	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)
Network	10/100BASE-T; IPv4/IPv6
Numbers of Relays	4 (2 leak + 1 break common fault + 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	Non-configurable
Maximum Relay Switching Voltage	125 VAC and 220 VDC
Maximum Relay Switching Capacity	60 W (30 V x 2A)

Identification Codes

FG-BBOX F	FG-NET's Satellite Device - 2 Circuits Black Box (Wall Mounted) 100-240VAC for TTK Bus 8723
FG-NET F	Digital Touchscreen Leak Detection Panel (Wall Mounted)
FG-NET E	Digital Touchscreen Leak Detection Panel (Rack Mounted)

Certifications



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

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

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