LIQUID LEAK DETECTION SYSTEMS

FG-NET

Digital Unit for Leak Detection and Location

Product Datasheet

- Digital, Fully Addressable
- Monitoring Up to 500 Sense Cables
- Touch Screen Interface
- Instant Locating of Faults
- Integrated Monitoring Software
- TCP/IP & MODBUS/JBUS Connection

Description

The FG-NET digital unit is designed to be used with all TTK digital sense cables, for water, bases, acid and hydrocarbon leak detection.

In the event of a fault on the sense cables (leak or cable break):
Primary responses from the FG-NET:

- An audible alarm is triggered and a relay is activated.
- The touch screen of the panel displays the location of the leak and details of the fault (the type of fault leak or cable break), including the time and date the fault is registered.
- Optional – integrated maps of the leak detection installation highlighting the location of the fault, available on the touch screen display of FG-NET.

Secondary advanced responses :

- Report to the BMS via a JBUS/MODBUS protocol. The FG-NET can drive dynamic drawings on the host BMS.
- Send email alerts and SNMP traps to a LAN-connected BMS, via a standard Ethernet connection.

Features & Benefits

FEATURES

- 7" (175mm) touch-screen gives a clear and detailed indication of the system status.
- User-friendly system - Users can customise the system with the sub menus accessible from the home screen, to set up the panel.
- Up to 120 lengths of sense cables (or 1800 metres) can be managed independently.
- The system's reaction time to faults is adjustable cable by cable.
- Temporal isolation (72 hours maximum) a or several sense cables.
- Up to 5000 events stored in the history log.
- Non-volatile memory (SD), for storing user settings and drawings.
- Three types of interface for communication with a BMS available.
  - TCP/IP connection via an Ethernet port.
  - JBUS/MODBUS RS232 or RS422/485 serial links.
  - 9 relay contacts: 8 configurable relays + 1 specific relay for power interruption.
    - Dual relay drive (e.g. 1 for BMS and 1 for solenoid valve);
    - Relay positions are defined by a LED indicator.
- Different security levels to provide maximum security.

BENEFITS

- Precise location of a leak: to the nearest metre for water and acid leak detection and to the section for oil leak detection.
- Each sense cable is addressable and can be assigned a specific name.
- Multiple simultaneous leaks can be detected (120 cables = 120 alarms).
- Different types of sense cables (for detecting conductive & non-conductive liquids) can be connected on the same panel for a truly bespoke system.
- Cable break faults can be detected (to the nearest cable).
- When a cable break occurs, the system maintains its integrity by continuing to monitor all preceding cables for faults.
- Compatible with existing monitoring systems (Trend BMS etc.)
- Extension and upgrade of the system is easy. No additional power source or zoning panels are required.

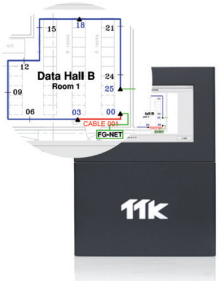
Touch Screen Menus

Four menus available for configuration of the FG-NET :

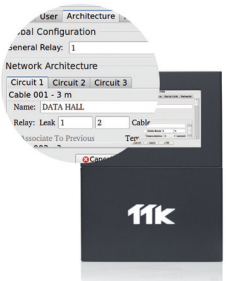
Setup	Main page for setting up the system architecture, cable isolation and reaction time rules, acknowledge mode, user access, relay status, time zone, language, sound alarm, serial links and network functionalities. An administrator level password is required to access this menu.
Event log	For viewing the recorded alarm history. A maximum of 5000 events can be stored in the event log.
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

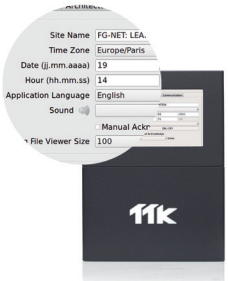
Simultaneous alarms displayed on one screen



Dynamic map shows leak in real time



Easy setup of relays for each cable



User-friendly interface of configuration

Technical Data

Compatibility	Sense cables (digital): FG-EC, FG-AC, FG-OD range of cables Sense cables (analog through FG-DTCS box): FG-ECS, FG-ACS Satellite devices: FG-BBOX, FG-RELAYS Diversion boxes: FG-DTC, FG-DTCS, FG-DCTL, FG-DOD Accessories: TTK 8723, 8771 jumper cable, FG-CLC, FG-TMC
Dimensions & Weights	Wall mounted W: 228 mm H: 303 mm D: 67 mm Weight: 2.3kg Rack mounted W: 483 mm H: 177 mm D: 74 mm Weight: 3kg
Maximum Length of Sense Cable	500 sense cables (500 x 15m=7500m) when use with FG-BBOX
Accuracy	water & acid leak detection: +/- 1 meter ; oil leak detection: section
Operating Languages	English, French, German
Voltage Input	100 to 240 VAC, 50-60 Hz
Power Consumption	36VA Max
Working Temperature Range	5°C to 55°C
Working Humidity Range	5% to 80% non-condensing
Relay Types	Volt free dry contact (NO, NC, COM)
Realy Numbers	9 (8 + 1 power failure relay)
Serial Connection	MODBUS/JBUS RS232 or RS422/485
Maximum Relay Switching Voltage	125 V AC and 220 V DC
Maximum Relay Switching Capacity	60 W (30 V x 2A)
Ingress Protection	IP40 - Indoor use only
Network	10/100BASE-T; IPv4/IPv6

Identification Codes

FG-NET (F / E)	Digital Touchscreen Leak Detection Panel (Wall Mounted / Rack Mounted)
FG-BBOX F	FG-NET's Satellite Device - 2 Circuits Black Box (Wall Mounted)
FG-RELAYS F	FG-NET's Satellite Device - 24 x External Relays (Wall Mounted)
FG-EC, FG-AC, FG-OD	Addressable Water, Acid, Hydrocarbon Sensing Cable With Connectors
Accessory Boxes:	
FG-DTC	Diversion Box for 'TTK Bus 8723'
FG-DTCS	Addressable Box for one Water or Acids Cable, on 'TTK Bus 8723' (Sector Mode)
FG-DCTL	'Cut-To-Length' Addressable Box for one Water or Acids Cable, on 'TTK Bus 8723' (Sector Mode)
FG-DOD	Bus Interface, for Integration of FG-OD Cables

Certificates

FM Approvals Member of the FM Global Group

FG-NET E and FG-NET F comply with the requirements of the generic harmonized European standards.
EN 61000-6-3: 2007 for emissions; EN 61000-6-2: 2005 for immunity.
FG-NET F and FG-NET E comply with the requirements of German and American safety requirements.
FG-NET digital unit meets the TÜV requirements.
ATEX certified FG-OD sensor cables can be connected to the FG-NET digital control unit.
All the connections in the FG-NET 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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