LIQUID LEAK DETECTION SYSTEMS

FG-SYS

Digital Unit for Leak Detection and Location

Product Datasheet



- Digital, Fully Addressable
- Instant Locating of Fault
- Dedicated Monitoring Software
- MODBUS/JBUS Connection

Description

The FG-SYS digital unit is designed to be used with TTK digital sense cables for water, bases and acids leak detection.
In the event of a fault on the sense cables (leak or cable break):

Primary responses from the FG-SYS unit:
- An audible alarm is triggered, the indicator light changes from green to red and a relay is activated.
- The display on the panel shows the leak location (± 3 ft [± 1 m]) and fault's details (type of fault, leak or cable break), with time and date.

Secondary optional advanced responses:
- Dedicated monitoring software: TOPSurveillance installed on a computer will show dynamic drawings highlighting the location of the faults;
- Report to the BMS via a JBUS/MODBUS protocol.

The FG-SYS digital unit will reset automatically once the leak or the default is cleared.

Key Advantages

- Three outputs are available, can be used independently.
- Up to 120 lengths of sense cables can be managed independently by the unit.
- Thirty events history log allows to track leaks and cable breaks.
- Two interface types for connection to building management and process control systems:
  - Two independent serial interfaces, each of them can be set for RS232 or RS422/485.
  - 9 relay contacts: 8 configurable relays + 1 specific relay for power interruption.
  - 8 relay positions are defined by a LED indicator.
  - Total programmable relays.
- Password is required for security.
- Pin-point location of a leak (± 3 ft [± 1 m]) .
- Each sense cable is addressable and can be customized by assigning a specific identity and name.
- Multiple simultaneous leaks can be detected (120 cables = 120 alarms).
- Two different types of sense cables (for detecting water and acids 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 and keeps monitoring all cables installed before that break.
- 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.
- Minimum maintenance required.

Buttons Functions

"ACQ"	Allows manual acknowledgement of the audible alarm. This key is also used in the main menu and history record, to validate and to return to the previous screen.
"T"est	Launches the FG-SYS system test and cables scan. The display will show the numbers, names and lengths for each connected sense cable.
"M"enu	Settings menu for cables names, date & time, sound alarm, relays, language, passwords and others. This menu is password protected.
"H"istory	Access to the events log registering the 30 last alarms sorted by date in a FIFO memory.

Technical Data

Compatibility	Digital sense cables: FG-EC, FG-AC Analogue sense cables (via diversion box): FG-ECS, FG-ACS Diversion / Interface boxes: FG-DTC, FG-DTCS, FG-DCTL
Dimensions & Weight	Wall mounted: 7.87''W × 9.84''H × 3.94''D (200mmW x 250mmH x 100mmD) Weight: 6.61 lb (3 kg)
Sensor Capacity	120 sense cables (40 x 3 circuits)
Location Accuracy	± 3 ft (± 1 m)
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	5°F to 131°F (-15°C to 55°C)
Case Type	Steel body, powder-coated, textured paint, light grey
Screen Size	Alphanumeric LCD display 4 rows by 20 characters with backlight
Format	Wall mounted
Ingress Protection	IP40 - Indoor use only
Serial Connection	MODBUS/JBUS RS232 or RS422/485
Number of Realys	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)

Digital Unit Status

- **Normal Operating Condition:** The FG-SYS digital unit doesn't detect any alarm.
- **Leak Detection:** a leak occurs on one of the monitored zones; a signal light turns to red, an audible alarm sounds, a de-energized relay is activated; the LCD display shows the time and date of the alarm with the area name and the leak location in foot.
- **Cable Break:** When the FG-SYS digital unit detects a circuit break on one of the monitored circuits; a signal light turns to red, an audible alarm sounds, a de-energized relay is activated; the LCD display shows the time and date of the alarm with the area name and the damaged cable number.

Technical Information

Terminal Block Wiring :

- Power: 100-240VAC 50/60Hz 15W. Power connector M+F.
- Circuits 1, 2, 3: 4 pts connector for leader cable FG-CLC.
- Relays: 8 relays with 3 pts connectors(COM, NO, NC) programmable.
- Serial interfaces 1&2: Screw terminals with RS232 or RS422/485 for JBUS/MODBUS communication to BMS, and for external relays or PC Computer.

Identification Codes

FG-SYS F (Wall Mounted)	FG-SYS digital unit wall mounted in metal enclosure

Certifications

CE

FG-SYS digital unit meets the requirements of all European Standards in EN 50081-1 (92) and EN 50082-1 (92) (report reference n° 8080612-CQPE/1 dated 14/09/1998).
FG-SYS leak detection and locating system is UL Listed.

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

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