



Description

The FG-SYS 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-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 (to the nearest 1 metre) 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.

Features & Benefits

FEATURES

- Available in two versions – Rack and wall mounted.
- 3 outputs are available, can be used independently.
- Up to 120 lengths of sense cables can be managed independently by the unit.
- 30 events history log allows to track leaks and cable breaks.
- 2 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 (can be extended to max 64 relays).
- Password is required for security.

BENEFITS

- Pin-point location of a leak (to 1 metre).
- 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).
- Three different types of sense cables (for detecting conductive & hydrocarbon 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 sensing 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	Sense cables (digital): FG-EC, FG-AC, FG-OD Sense cables (analog through FG-DTCS box): FG-ECS, FG-ACS Diversion boxes: FG-DTC, FG-DTCS, FG-DOD, FG-DCTL Accessories: TTK 8723 jumper cable, FG-CLC, FG-TMC
Dimensions & Weights	Wall mounted (F): W: 200mm H: 250mm D: 100mm Weight: 3kg Rack mounted (E): 4U and 19" Weight: 2kg
Maximum Length of Sense Cable	1800 meters (600 meters per circuit)
Accuracy	+/- 1 meter
Operating Languages	English, French, German
Dimensions	200x250x100mm (Wall mounted, F); 4U and 19" (Rack mounted, E)
Supply Voltage	100-240VAC, 50/60Hz, 15W
Working Temperature Range	0°C to 50°C
Working Humidity	5% to 95% non-condensing
Relay Types	Single contact NO-NC
Alarm Relays	Eight programmable relays for leaks and/or breaks with status LED, plus one power fail relay
Supported Protocol	Modbus RS232, RS422, RS485, available on two independent interfaces
Maximum Switching Voltage	120 V AC and 220 V DC
Maximum Switching Capacity	60 VA or 30 W

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 metres.
- **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
FG-SYS E (Rack mounted)	FG-SYS Digital unit rack mounted in 19" & 4U
FG-EC, FG-AC, FG-OD	Digital sense cables in 3m, 7m and 15m lengths (3, 7 and 12m for FG-OD)
Accessories	
FG-CLC	Leader cable (Belden ref. 8723 in 3.5m lengths)
FG-TMC	End termination plug
FG-DTC	"T" branch, diversion box
FG-DTCS	Addressable box for FG-ECS, FG-ACS sense cables
FG-DCTL	Digital cut to length diversion box
FG-DOD	OD bus interface

Certificates



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 digital unit meets the TÜV requirements, according to IEC 61010-1/A2.
FG-SYS leak detection and locating system is UL Listed.
FG-OD sense cables which are certified by ATEX can be connected to the FG-SYS digital unit.

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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- **TTK Headquarters** / 4 rue du Chemin Vert, 92110 Clichy, France / T : +33.1.56.76.90.10 / F : +33.1.55.90.62.15 / www.ttk.fr / ventes@ttk.fr
- **TTK UK Ltd.** / 3 Luke Street London EC2A 4PX - United Kingdom / T : +44 207 729 6002 / F : +44 207 729 6003 / www.ttkuk.com / sales@ttkuk.com
- **TTK Pte Ltd.** / #09-05, Shenton House, 3 Shenton Way / Singapore 068805 / T: +65.6220.2068 / M: +65.9271.6191 / F: +65-6220.2026 / www.ttk.sg / info@ttk.sg
- **TTK Asia Ltd.** / 2107-2108 Kai Tak Commercial Building / 317 Des Voeux Road Central / Hongkong / T: +852.2858.7128 / F: +852.2858.8428 / www.ttkasia.com / 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.ttk.com / cgalmitche@ttk.fr
- **TTK Deutschland GmbH** / Berner Strasse 34, 60437 Frankfurt, Deutschland / T : +49(0)69-95005630 / F : +49(0)69-95005640 / www.ttk.de/ / vertrieb@ttk-gmbh.de