



LIQUID LEAK DETECTION SYSTEMS

Case Study

TTK WATER LEAK DETECTION SYSTEM

In A DATA CENTRE NEAR HANNOVER, GERMANY



PROJECT BACKGROUND

One of the leading commodity suppliers in Germany, with worldwide presence and over 56 000 employees, owns a data centre from which worldwide operations are coordinated.

Inside this data centre, a German brand analogue based water leak detection system was installed over ten years ago – this out-of-date system emitted frequent false alarms disturbing the facility management's daily operations.

The client decided to reinforce the security level in the data centre by replacing the old analogue system with a digital reliable system to benefit from the technical progression this modern system has.



FG-NET digital monitoring control panel

PROJECT OVERVIEW

Client & Project	German leading commodity supplier* <small>*: Due to client confidentiality, the client name has been removed from this project study.</small>
Location	Near Hannover, Germany
Application	Existing Data Centre Building
Project Type	Retrofit Project
Project managed by	TTK Deutschland GmbH
Contract Scope	Turnkey project: including planification, material delivery, installation, testing & commissioning
Completion Date	January 2022
Technology	Digital monitoring unit FG-NET, water sensing cables FG-EC and FG-ECS, diversion boxes FG-DTCS

MONITORED AREAS

Some examples of areas to be protected:

- Ceiling ducts
- Raised floors
- Data halls
- Technical areas

TTK's SOLUTIONS

■ Sensing cables

Several addressable water sensing cables (FG-EC) were installed under the raised floor in the data hall to detect leaks from the chilled water pipes.

Furthermore, over thirty closed parallel cable ducts were installed in the ceiling, in which seven-metre water leak sensing cables (FG-ECS) ran, to detect potential rainwater leak from the roof and potentially to the data hall and technical rooms underneath.

All sensing cables were connected to diversion boxes, which were placed in specific cases and connected to a monitoring panel FG-NET.

In the case of a leakage being detected inside the duct, the diversion box transmits the leak information to the digital monitoring panel, the latter then displays the leak location on its touch screen, allowing the facility management operator to take actions.

The FG-ECS sensing cable can be connected to both TTK's locating alarm units and non-locating unit. Additionally, each FG-ECS sensing cable is made with special Low Smoke Zero Halogen material, it emits limited smoke and no halogen when exposed to high sources of heat.

■ Digital monitoring panel

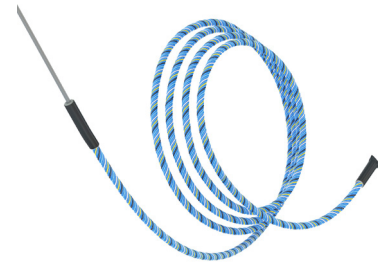
All sensing cables and diversion boxes are connected to a single FG-NET monitoring panel. Connected to the BMS via Modbus TCP/IP communication protocol, the panel alerts and pinpoints alarms on the interactive maps in the case of a leak occurring.

■ Feedback of the client

This solution meets the requirements of the client and would be progressively applied at their projects worldwide. The client is so impressed by TTK solutions and satisfied with TTK services that they have specified TTK as the sole leak detection solutions provider. Facilities in Germany and Spain projects will follow.



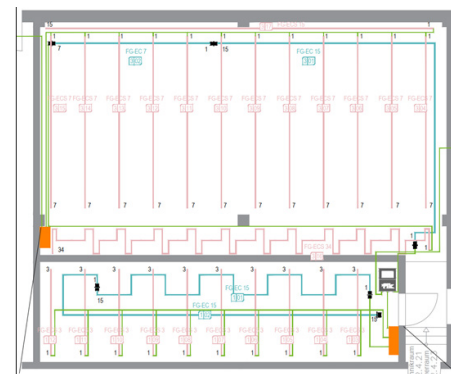
Ceiling ducts and TTK sensing cables run inside



TTK water sensing cable FG-ECS



TTK diversion boxes (FG-DTCS) inside a specific enclosure



Schematic of TTK water sensing cables installation in the data hall (pink for ceiling ducts and blue for raised floors)

