



LIQUID LEAK DETECTION SYSTEMS

Case Study

TTK WATER LEAK DETECTION SYSTEM AT CNP ASSURANCES, PARIS, FRANCE

PROJECT REQUIREMENTS

- The fan coil units are installed inside an enclosure along the building facade on all of the 13 levels. The client requires early detection and accurate location of any water leaks.
- A large number of solenoid valves are installed on the water supply pipes inside the buildings. In the event of a leak being detected, the client requires only the affected solenoid valve to be shut down automatically, thus avoiding impact on the entire cooling system.

PROJECT OVERVIEW

Project	CNP Assurances headquarters
Location	Paris Montparnasse, France
Application	Corporate Building
Project Type	New Project
Project followed by	TTK France (Paris)
Contract Scope	TTK supply, install, test and commissioning the leak detection system
Completion Date	Block 4: 2018 Block 2 & 3: June 2019
Technology	FG-NET digital monitoring unit; FG-BBOX satellite devices; FG-RELAYS external relays box; FG-EC water sensing cables



ABOUT THE CNP MONTPARNASSE

CNP Assurances headquarters in Paris Montparnasse has 4 office buildings. TTK water leak detection system was installed in 3 of them (block 2, 3 and 4) up to June 2019.

TTK's SOLUTION

Sense cable:

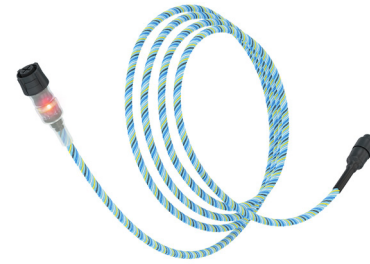
- It is not unusual to find water around fan coil units - this is a sign that something is either dripping, leaking, or not draining properly. This can be from a clogged pipe, a drainage tray or clogged back drain path of the unit. In any case, this should be alerted and fixed as soon as possible to avoid water damage.
- In this project, the addressable sense cables FG-EC are installed directly onto the floor underneath the fan coil units to ensure a very early detection. The patented and unique structure of these sense cables allows them to sense water, but not to be disturbed by the presence of condensate, dust or metal, allowing reliable detection in an environment where condensate and dust are commonly present.
- The microprocessor embedded on the cable intelligently monitors the cable status and provides continuous real-time communication to the TTK monitoring panels. In the case of water on the cable, it alerts the monitoring panel with the accurate location. Since each sense cable is independent (thanks to the microprocessor), leaks can be detected simultaneously and reported to the client's BMS. No leak is hidden by another leak and there is no "dead-zone".

Monitoring panels:

- To monitor these 3510m (90x13x3) - 39 levels: 13 floors in 3 buildings - only 1 FG-NET monitoring panel and 2 FG-BBOX panels (a satellite device for the FG-NET panel capable of managing additional sense cables) are needed. The connection between these panels is via the existing TCP/IP network and therefore there is no restriction in terms of the distance between the panel positions.
- The addition of 3 FG-RELAYS (external relay boxes) allows three sets of 24 configurable external relays to the FG-NET panel, enabling it to drive the solenoid valves (required by the client for this project) in the event of a leak or system alarm, reducing any down time considerably.



Fan coil units along the building facade



FG-EC addressable water sense cable is not disturbed by the presence of condensate, dust or metal thanks to its unique silver wire



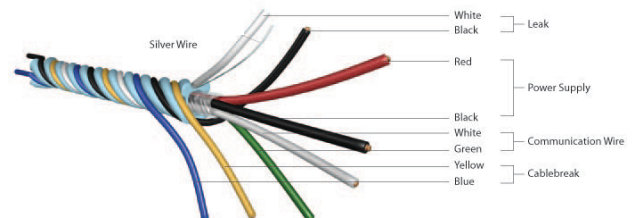
Dust proof



Condensate proof



Metal proof



Solenoid valves on a water pipe

