



LIQUID LEAK DETECTION SYSTEMS

Case Study

TTK WATER LEAK DETECTION SYSTEM AT NATIONAL BANK OF KUWAIT, KUWAIT

ABOUT NBK NEW HQ TOWER

The National Bank of Kuwait (NBK) was incorporated in 1952 as the first local bank and the first shareholding company in Kuwait and the Persian Gulf region.

Located in Sharq, the city's financial district, the 300-metre-high headquarters tower contains 61 above ground floors. The design combines structural innovation with a highly efficient passive form, shielding the offices from the extremes of Kuwait's climate, where temperatures average 40 degrees in the summer months. Utilising both passive and active measures to reduce water and energy consumption, the project targets a LEED Gold rating.



National Bank of Kuwait Headquarter Tower

PROJECT OVERVIEW

Project	National Bank of Kuwait New Headquarter Tower
Location	Kuwait City, Kuwait
Application	Corporate & Institutional Building
Project Type	New Project
Project followed by	TTK Middle East (Dubai)
Contract Scope	TTK Design, Supply of Leak Detection System, Technical Training for Installation, Testing and Commissioning, Client Handover and Training.
Completion Date	November 2020
Technology	FG-NET digital monitoring unit and satellite device FG-BBOX with FG-EC, FG-ECS Cut to Length water sense cables, TTKweb management software

PROJECT REQUIREMENTS

The client requires an advanced and reliable digital water leak detection system with comprehensive software to protect the massive building from the basement to the roof.

TTK's SOLUTION

TTK ME recommended an addressable water leak detection system combining FG-NET, FG-BBOX panels and durable water sense cables.

In total, a mix of 376 lengths of linear and sector mode water sense cables (FG-EC 7/15m and FG-ECS cut to length) equipped the technical environment of the whole building.

Powerful Satellite Device: FG-BBOX

To protect numerous technical environments in this massive building, over 416 circuits of water sense cables are installed. One FG-NET monitoring panel and five FG-BBOX satellite panels (located on four levels) supervise these sense cables (see schematic). All command and control is centralised to the FG-NET, an intelligent user-friendly interface. The FG-BBOX is not equipped with a display so it can be discretely located.

The FG-BBOX is a satellite device of the TTK FG-NET Digital Unit and monitored via a standard Ethernet network. It increases the FG-NET capabilities to manage two additional circuits of sense cables with up to 1200 metres of additional Sense Cables. The FG-BBOX connects to the FG-NET through the facilities Ethernet network, eliminating the need for additional connections. Utilizing the FG-BBOX in large installations is ideal because it allows an easy extension of the existing leak detection system.

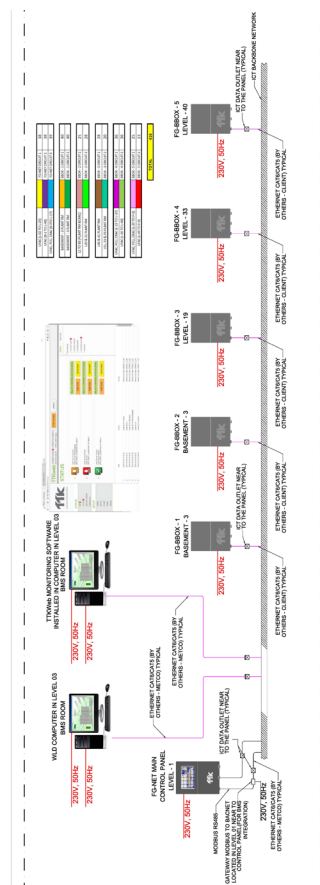
The Premium Management Software: TTKweb

To optimize the exploitation of all information emitted by FG-NET, TTKweb is implemented.

TTKweb is a premium management software for TTK liquid leak detection systems. It performs two main functions:

- **It can manage multiple panels** (FG-NET, FG-BBOX, FG-RELAYS) **even if located in different building and sites.** It can view the status of all panels and their sense cables continuously. In case of a fault, the alarm is instantly pin-pointed on the zone map displayed on TTKweb. The user can acknowledge an alarm, activate a relay or disconnect a sense cable directly on TTKweb.

- **TTKweb includes the smart tools to configure the system.** The user can build the hierarchy of the installation, edit the zone maps and create detection zones, with no additional drawing software necessary. These maps can be updated as many times as required, throughout the lifetime of the installation with the growth and change of the site.



TTK WLD Control Panels Schematic



FG-NET Control Panel Installed On Site



FG-BBOX In Alert Status



TTKweb Software Interface

