LIQUID LEAK DETECTION SYSTEMS

Case Study

TTK WATER LEAK DETECTION SYSTEM IN CNN OFFICE, ABU DHABI, UAE

Project Background

Yas Creative Hub is Abu Dhabi's newest hub for the media, gaming and entertainment industry. It has been purpose-built to meet the future needs of this flourishing sector. 270,000 sq.m (2.9 million sq.ft.) campus will house 16,000+ professionals by 2031, working across traditional and cutting-edge creative sectors, including Ubisoft and Unity Technologies.

CNN is one of the world's most widely distributed news broadcasters and is basing its fourth global broadcasting hub in Abu Dhabi, on the 7th floor in the Yas Media Creative Hub.

Overhanging chiller water pipes with drip tray

PROJECT OVERVIEW

Client & Project	CNN Office
Location	Abu Dhabi, United Arab Emirates
Application	Office Building
Project Type	New Project
Project managed by	TTK Middle East
Contract Scope	TTK assures engineering, material delivery, installation, testing & commissioning, start-up & handover of the leak detection system
Completion Date	September 2022
Technology	Digital monitoring unit FG-NET, addressable water sensing cables FG-EC

Areas to be Monitored

Some examples of areas are being protected:

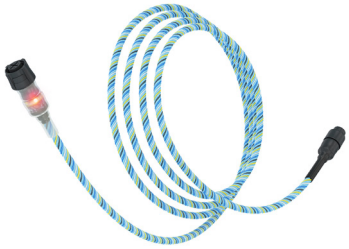
- Live studio
- Server rooms
- Technical areas: UPS, CCU (Central Control Unit), TGR (Technical Gear Room), FCU (Fan Coil Units), ATS (Automatic Transfer Switches), plant rooms
- Pantries, beverage stations, break rooms, lounges

Project Requirement

The chilled water (CHW) pipes network runs through sensitive areas, such as the server room (where UPS and racks are situated), plant rooms, and just above the live studio.

The client needs a reliable digital leak detection system to detect any water leakage at an early stage, typically from chilled water pipes, inside both public working areas and reserved technical areas.

FG-NET versatile monitoring control panel



TTK addressable water sensing cable FG-EC

TTK's Solutions

TTK Middle East recommended its advanced digital water leak detection system – the FG-NET panel with FG-EC addressable water sensing cables.

Sensing cables

To continuously monitor the overhanging chilled water pipes equipped its total length, of a horizontal drip tray, TTK proposed the addressable water sensing cables (FG-EC), to be installed under the pipes and inside the drip tray.

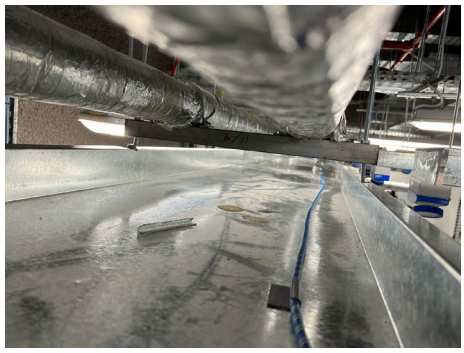
For technical rooms and equipment, sensing cables are installed to the perimeter of technical areas or equipment itself, for early detection.

To sum up, the water sensing cables' layout in this project is:

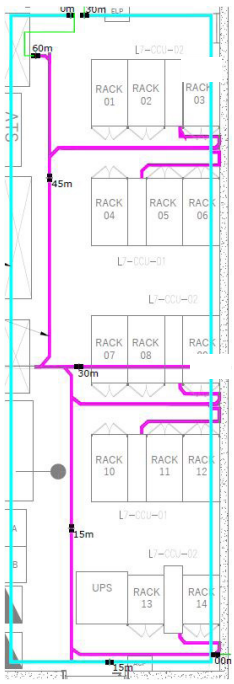
- Live studio: sensing cables are installed to the perimeter of the studio and under the chilled water pipes within the drip tray at the overhanging level.
- Server rooms and technical equipment such as UPS, CCU, TGR, FCU, ATS: sensing cables are installed to the perimeter of the room or around the equipment to be protected for efficient monitoring.
- Pantries, beverage stations, break rooms and lounges: sensing cables are in the periphery of the pantries & below the sink/ washbasin.

Digital monitoring panel

All sensing cables are connected to a single FG-NET monitoring panel (located on the ground floor), on two of the three available outputs. Connected to the BMS via RS232/485 Modbus communication protocol, the panel alerts and pinpoints alarms on the interactive maps in the case of a leak occurring.



TTK addressable water sensing cable installed in the drip tray under chiller water pipes



TTK water sensing cable layout for server rooms
Extract of TTK digital leak detection drawing
Cable in pink - high level
Cable in blue - low level

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