###### TECHNICAL SPECIFICATIONS

###### FOR MODULE TYPE

######  WATER LEAK DETECTION SYSTEM

**INTRODUCTION**

Digital Water leak detection System shall be designed to protect a facility from damaging leaks and to alert the personnel about the location of leak in facility or to give an early warning of water leakage from any source, e.g. pipes, tanks and air conditioning plants. The Digital Water leak detection System shall be capable of interfacing to digital water leak sensor cables, hooters, etc. The system shall be designed to raise an alarm, when a leak is detected in the sensor cable and shall display the exact location of leak. Events should be clearly reported on display with full English language description of the nature of the fault in the panel.

**EQUIPMENT**

The Digital Water leak detection system shall comprise of Microcontroller based panel, Water Leak detection modules, digital water leak sensor cables, sounders, all connected to a Main Panel. The technology shall be TDR or equivalent to detect & locate leak.

**CONTROL PANEL**

The control panel shall be a Microcontroller based intelligent system which shall be capable of monitoring upto 8 zones. The display shall be a Alphanumeric LCD. **In the event of water leak, the panel display shall generate alarms along with the exact zone.** In addition to the alarm & zone display, the panel shall indicate the status of all the zones, sensor cable healthy status, Date and Time etc. Keypad shall be a membrane type / Tack tile type with main functionalities like Mute, Isolate, Reset, Enter, Exit etc.

In addition to display, the panel shall have 8 digital outputs for alarm, fault and common digital output for Fire and sounder. When a leak is detected by the water leak detection module, alarm LED shall be ON, fire and sounder relay shall get triggered. Also the display shall indicate the alarm from the corresponding module along with the name.

The system shall have a Buffer memory to log recent fault & Alarm events with exact date and time.

The panel shall be powered by 230V 50Hz Mains supply and UPS power shall be connected for uninterrupted operation. The panel shall be capable of communicating with any BMS via MODBUS RTU protocol by default without any addition of hardware / interface module.

**WLD MODULE**

The module shall be a microcontroller based slave device. The module shall have the capability to accept any length of Water Leak sensor cable. **The sensing technology shall be AC sensing only. DC excitation for detecting leak is not allowed.** The module shall have LEDs and keys. The communication between control panel & modules shall be star topology / daisy chain & cable between control panel & module shall be 2 core cable.

**SENSOR CABLE**

The sensor cable shall be able to reliably sense the presence of water or any conductive fluid and also send the information of leak / cable break to the module. The sensing cable shall be durable, easy to clean, fast drying, and able to resist damage from most contaminants.

**TECHNICAL SPECIFICATIONS:**

**Control panel**

No. of Zones : Up to 8

Maximum Length per zone : 99m

Detection Response Time : < 100 msec

Events : 100 event log

Control keypad : Membrane / Tack Tile Keypad

Display : LED/LCD

On board volt free outputs : Minimum 11 outputs

Temperature Range : -10 deg C to +55 deg C

Humidity Range : 0% - 90% (non condensing)

**MODULE**

Sensing cable : up to 99m

Visual Indication : LED / LCD

Audio Indication : Buzzer / hooter

Detection method : AC sensing

Communication : Star Topology daisy chain

Mounting : DIN Rail / wall mount

Operating voltage : 230V operated

**WATER LEAK DETECTION CABLE**

Supply Voltage : 12V DC

Sensing element : Non metallic monomer material.

Response Time : < 100 msec

Max sensor cable length : 250m.

Dimension : 3.5 mm dia.

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