

LiquidWatch[®]

Leak Detection System

Guide Specification

Part 1 General

1.1 Scope

Discrete Point Monitoring System (DPMS) shall be capable of detecting liquids and shall consist of a monitoring unit and probes. The DPMS shall detect liquids only and shall ignore gases or vapors.

1.2 Manufacturer

The DPMS shall be supplied by a manufacturer with a minimum of ten years experience in Leak Detection Systems. The supplier shall be PermAlert Environmental Specialty Products, Inc., Niles, Illinois.

Part 2 Performances

1.3 Performance

The DPMS shall detect the presence of liquids in contact with a sensor probe connected to a monitoring panel. The system shall not detect vapors or gases in the atmosphere present at the probe location.

When a liquid is detected an audible alarm shall sound and a visual indication shall be visible from the front of the panel. Provisions shall also be provided for remote annunciation or operation of external devices.

2.2 Detected Liquids

The system shall be capable of monitoring water sensors and hydrocarbon sensors.

The hydrocarbons sensor shall be able to detect, through not limited to, the following hydrocarbons:

1,1,1, Trichlorethane	Acetone	Diesel Fuel
MEK	Gasoline	Crude Oil
Xylene	Jet Fuel	Kerosene

The water sensor shall detect conductive liquids.

2.3 Sensitivity

Leak detection sensitivity 0.2 gallons/hr. in a 5 minute period.

Part 3 Materials

3.1 General

The materials shall be manufactured in accordance with acceptable industry standards.

3.2 Monitoring Panel

The Monitoring Panel shall be modular in design and accept up to 64 input signals from the sensors. The Panel shall have an audible alarm mounted on the front door and a membrane keypad. An LCD shall be visible with the front door closed. Enclosure shall be NEMA 4X.

3.3 Remote Probe Modules

The panel shall consist of 1 probe module and provisions for connecting to 7 additional modules. Each module shall be capable of monitoring 8 probes or other contact input devices (i.e. float switch). Each probe module shall be mounted in a NEMA 4X enclosure.

3.4 Relays

One relay shall be mounted inside the panel. Up to 16 programmable relays shall be available for individual probe alarm. They shall be normally energized SPDT, Form C Type rated for 10 A continuous use at 250 VAC.

3.5 Audible Alarm

An Audible Alarm shall provide a signal of not less than 75 dB.

3.6 Safety

[The unit must be U.L. Listed and provide connections for intrinsically safe sensor circuits for use in Class 1, Division 1, Groups C and D Hazardous Locations] (Optional)

3.7 Sensors

The standard sensors shall be probes. The probes shall detect the presence of liquids while ignoring gases and vapors in the atmosphere.

The probe shall be less than 1 1/16" in diameter and less than 2" long.

The probe housing shall be corrosion resistant.

The probe shall have no external moving parts.

Lead wires shall consist of a minimum 22 AWG shielded conductors. The wire insulation shall be resistant to hydrocarbons and water and be appropriate for the application.

3.8 Time To Alarm

The system shall alarm within 3 minutes or less after contact between sensor probes and liquid occurs.

3.9 Resetability

The probes shall be resettable numerous times after cleaning or replacement of the sensor elements.

3.10 Installation

The system shall be installed per the manufacturer's recommended installation procedures. All local, state, and federal codes and requirements shall be followed. The system shall be installed by properly trained personnel.