

# LiquidWatch®

## Leak Detection/Location System

### Guide Specification

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#### **Part 1 General**

##### **1.1 Scope**

The 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 10 years experience in Leak Detection Systems. The supplier shall be PermAlert Environmental Specialty Products, Inc., Niles, Illinois.

#### **Part 2 Performance**

##### **2.1 General**

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 detecting water and hydrocarbons and differentiating between the two liquids.

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

1,1,1, Trichlorethane	Acetone	Diesel Fuel
Ethyl Acetate	MEK	Gasoline
Crude Oil	Xylene	10W30 Motor Oil
Jet Fuel	Kerosene	Isopropanol

The water sensor shall detect conductive liquids.

##### **2.3 Sensitivity**

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

#### **Part 3 Materials**

##### **3.1 General**

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



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## 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 (8 probes) and provisions for adding up 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 (1) 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 amps continuous use at 250 VAC.

## 3.5 **Audible Alarm**

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

## 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 3/4" in diameter and less than 2" long.

The probe housing shall be corrosion resistant.

The probe shall be solid state with no moving parts and shall typically reset after all volatile liquid is removed from the Probe.

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 one (1) minute or less after contact between sensor probes and liquid occurs.

## 3.9 **Resettability**

The probes shall be resettable in most cases after removal of the liquid sensed. The number of resets is dependent upon length of exposure and type of liquid sensed.

## 3.1 **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.



# FluidWatch®

## Sensitive Area Monitoring System

### Guide Specification

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#### **Part 1 General**

##### **1.1 Scope**

The Sensitive Area Monitoring System (SAMS) shall be capable of detection aqueous liquids and shall consist of a monitoring unit cable.

##### **1.2 Manufacturer**

The SAMS shall be supplied by a manufacturer with a minimum of 10 years experience in Leak Detection Systems. The supplier shall be, PermAlert Environmental Specialty Products, Inc., Niles, Illinois.

#### **Part 2 Performance**

##### **2.1 General**

The SAMS shall detect the presence of water and water based liquids in contact with a sensor cable connected to a monitoring panel.

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

The panel shall have a low, medium and high sensitivity setting.

The panel shall be able to operate with either 24 VDC, 115 VAC or 220 VAC input power. the input power shall be fused.

##### **2.2 Detected Liquids**

The system shall be capable of detecting water and water based liquids.

#### **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 designed to accept up to 125 feet of sensing cable and jumper.

##### **3.3 Relays**

Two (2) Relays shall be mounted inside the panel. It shall be normally energized SPDT Form C Type rated for 10 amps continuous use at 250 VAC.

##### **3.4 Sensor Cable**

The Sensor Cable shall detect the presence of water based liquids.

The cable shall be corrosion resistant.

The cable shall typically reset after all liquid is removed from the cable.



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## **3.5 Time To Alarm**

The system shall within one (1) minute or less after contact between sensor cable and liquid occurs.

## **3.6 Indicators**

Three (3) LED's shall be visible on the door of the panel indicating System Monitoring (Green), Leak Detected (Red) and Wire Continuity Fault (Yellow).

## **3.7 Operator**

Two (2) push buttons shall be accessible from the front panel to operate the system. A "Test" button will actuate an audible alarm, deenergize the relay and illuminate the Red LED and a "Silence" button will shut off the audible alarm when an alarm condition exists.

The owner shall be capable of disabling the "Silence" button.

## **3.8 Audible Alarm**

An Audible Alarm shall provide a sound output at two (2) feet of not less than 75dB. Either a Continuity Fault (Yellow) or Leak (Red) Shall actuate the alarm.

## **3.9 Resetability**

The sensing cable shall be resettable after removal of the liquid sensed.

## **3.10 Sensitivity**

The Panel shall have a Low, Medium and High Sensitivity setting. The setting shall determine the amount of wetted cable needed to set off the alarm.

## **3.11 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.

