Aqualeak EMS-1

The Aqualeak Environmental Monitoring System (EMS) Water Leak Detection System series are standalone leak detection systems designed to be integrated into larger Building Management Systems (BMS) and networks.

Designed for continuous operation with minimal human intervention, the EMS series is also compatible with a wide variety of sensing technologies (sold separately) to detect the presence of water and other liquids.

The Aqualeak EMS-1 is designed to monitor for water leaks in single-zone critical areas such as Tea Points, Satellite Equipment Rooms (SERs), and Main Equipment Rooms (MERs).

Sensitivity to moisture and delays to alarms may be adjusted to better tailor the system to intelligently respond to a wide range of environments, situations and user requirements.

If a leak is detected, an audible alarm is activated, an LED illuminated, and, if connected, the EMS will report its alarm status to any connected device (BMS/SMS/beacon, valve) via its volt free contacts.

Benefits

- *Configurable to suit a wide range of environments*
- *Minimum human intervention required*
- *Reduced risks of flooding*
- *Activates an audible alarm when leak is detected*

Features

- *Capacitive touch-sensor buttons*
- *Analyses data samples gathered in real time*
- *Built-in visual and audible alarms*
- *Connects to a variety of sensor types & ancillary devices*
- *Wall-mounted and mains powered*
- *Built-in visual and audible alarms*
- *Sensitivity to moisture and delay to alarm configurable*
- *CE Compliant*

Operation

In operation, the EMS-1 continuously monitors the sensing equipment connected to it for both circuit integrity and the presence of water. If a leak is detected, the EMS-1 will and/or can be configured to:

- *Activate a visual (LED) alarm*
- *Sound a buzzer*
- *Report alarm status to a connected Building Management System (BMS / SMS) or device*
- *Continuously monitors sensing equipment*
- *Shut off local water supplies*

EMS Series Models

In addition to the EMS-1, the Aqualeak EMS series also includes the following models:

- *EMS-05: 5 input channels (scalable and modular for multiple zones)*
- *EMS-OS: Multiple input channels (scalable and modular for large scale applications)*
- *EMS-10: 10 input channels (scalable and modular for multiple zones)*

Technical Specifications

EMS-1	Specification
Dimensions	*146 x 86 x 69 mm - Width x Height x Depth*
Weight	*300 Grams (0.3 Kilograms)*
Supply Voltage	*100-240 (VAC Volts / Alternating Current) 60 Hz frequency*
Motherboard Output Relay Voltage	*250 VAC Max.*
Motherboard Output Relay Current	*8 Amps. Maximum into resistive load*
Relay Minimum Load	*10 Milliamps - at 5 VDC (Volts / Direct Current)*
Leader Cable	*Belden 9534 EIA RS-232 Multicore Cable (4 Core, 24 AWG, 0.2 mm²). Variable length*
Detection Response Time	*1 second*
Alarm (Audible)	*85 dB. Within 0.6 m range*
Alarm (Visible)	*LED Indicator - Front Panel*
Operating Temperature	*0 to +50˚C (Degrees Centigrade). Ambient temperature*
Operating Humidity	*10 to 95% Relative humidity (non-condensing) at 45˚C*
Operating Altitude	*0 to 3,000 Metres*
Storage Temperature	*-20 to +70˚C*
Input channels	*1*
Maximum Sensor Cable Length	*100 m (with maximum 20 probes). Use recommended yellow Sensor Cable (SCY). Also requires End of Line (EOL) terminator*

Input-Output

Item	Name	Notes
1	*Power Fault Relay*	*NC | NO | COM*
2	*Sensitivity Measure*	*Used with Sensitivity Adjustment*
3	*DC Out*	*12V / 24V Selectable Output Maximum 250mA*
4	*Fault Relay*	*Maximum 250mA*

Relay Abbreviations	Mains Abbreviations
NO = Normally Open	*LS = Live Supply*
NC = Normally Close	*LL = Live Loop*
COM = Common	*NS = Neutral Supply*
	NL = Neutral Loop
	ES = Earth Supply
	EL = Earth Loop

Dip Switch Settings

Switch	Function	Default
1	*Unit Sounder*	*ON*
2	*Disable Relay Latch*	*OFF*
3	*1 Minute Alarm Delay*	*OFF*
4	*5 Minute Alarm Delay*	*OFF*

Switch	Function	Default
5	*NOT USED*	
6	*Timed Latch*	*OFF*
7	*NOT USED*	
8	*12/24V DC Out Selector*	*OFF (12V)*

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