Aqualeak EMS

The Aqualeak **EMS** is a scalable, multi-zone leak detection solution designed for continuous operation with minimal human intervention. As a scalable system, it is ideal for applications ranging from small multi-room offices through to major industrial factories and large multi-floor commercial offices.

EMS Master panel

To prevent water damage in the event of a leak, the **EMS** can be configured to automatically activate isolation valve(s) to shut OFF the water supply and header tanks; and activate external sounders/alarms.

EMS is available in the following variants:

- **Five channel** version. A single Master Panel suitable for up to five zones.

- **Ten channel** version. A single Master Panel suitable for up to ten zones.

- **Expandable** version. A modular expandable option with a single Master Panel and up to 125 Outstations. Each Outstation can monitor five zones, giving a total system coverage of up to 625 zones. Communication between Master Panel and Outstations is via an RS485 data bus.

EMS is highly flexible, allowing bespoke configurations that can provide a leak detection system tailored to each Users requirements.

EMS can act as a standalone system, as part of a Building Management System (BMS), or can be connected to a control centre.

EMS uses sensor probes and sensor cables (sold separately) to detect the presence of water and other liquids. In operation, the **EMS** continuously monitors the sensor cables and probes connected to it. If a leak is detected, an alarm is activated, a buzzer is sounded, and the **EMS** will report the presence of a leak to a BMS or control centre, if connected.

Benefits:

- ❖ **Provides remote monitoring for leaks.**
- ❖ **Reduces risks from flooding. If leak detected:**
  - ❖ **Automatically alerts BMS or control centre.**
  - ❖ **Turns water OFF.**
  - ❖ **Sounds a buzzer on Main panel.**
  - ❖ **Activates sounders/alarms.**
- ❖ **A single EMS can provide leak detection to multiple floors of a major office building.**
- ❖ **Minimal human intervention required.**
- ❖ **Built-in fault detection.**

Main Features:

- ❖ Multi-zone system.
- ❖ Can cover up to 625 zones.
- ❖ A single solution for multi-floor office complexes.
- ❖ Scalable solution. Suitable for small multi room offices to the largest commercial and industrial buildings.
- ❖ Wall-mounted.
- ❖ Mains powered.
- ❖ Touch screen display.
- ❖ Can be connected to a BMS or control centre.
- ❖ Detects breaks in sensor cables.
- ❖ "Watchdog" program monitors master panel for faults.
- ❖ Highly flexible system that can be tailored to match the Users requirements.
- ❖ CE marked.
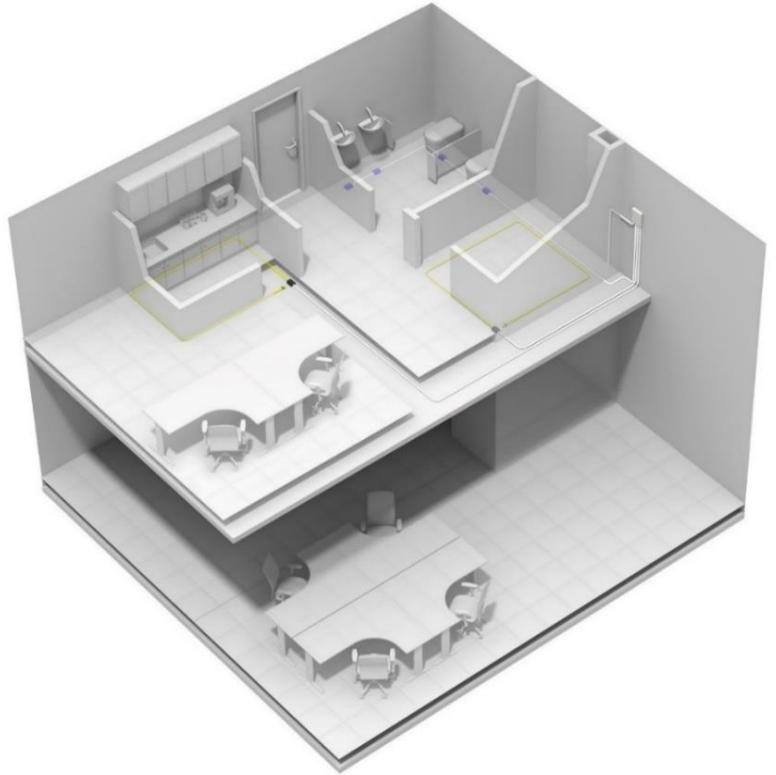
Sensor cable routing in a large office

EMS is for indoor use only and must not be used where there is a danger of freezing. The Master Panel and Outstations are wall-mounted.

AQUALEAK DETECTION LTD

MASTER PANEL	VALUE	UNITS	NOTES
Dimensions	335 x 270 x 110	mm	Width x height x depth
Weight	4.5	kg	
Supply Voltage	80 to 264	VAC	50/60 Hz
Ingress Protection (IP) Code	IP51	IP	Ingress Protection to IEC 60529. For unit as supplied, may be affected by holes drilled during installation.
Operating temperature range	0 to +50	deg C	Ambient temperature
Humidity range	10 to 95	%	Relative humidity (Non-condensing) at 45 deg C
Operating altitude	0 to 3,000	m	
Storage temperature range	-20 to +70	deg C	
Input channels	5 or 10		Depending upon version
Motherboard output relay voltage	250	VAC	
Motherboard output relay current	8	A	Maximum. Into resistive load.
Relay minimum load	10	mA	@ 5 VDC
Sensor Cable maximum length	50	m	Only use recommended yellow coloured Sensor Cable
Leader cable	Variable length	m	EOL terminator required for Sensor cable.
Detection response time (per Outstation)	1	sec	E.g. 50 Outstations have a max response time of 50 seconds
EIA Communication Port	9600	Baud	Parity: none. 8 data bits, 1 stop bit
Visible alarm			On LCD touch screen (see Operation section of this manual)
Audible Alarm	85	dB	at 0.6 m
Approvals	CE Marked		
Compliance	Radio Equipment Directive 2014/53/EU Low Voltage Directive 73/23/EEC EMC Directive 89/336/EEC		
Protocols	Modbus (RTU and ASCII)		Slave; RTU and ASCII modes (ASCII preferred). Supports function code 03 only, all other requests are ignored. Also supports Modbus TCP. Addressable from 1-255.

OUTSTATION UNIT	VALUE	UNITS	NOTES
Dimensions	180 x 130 x 77	mm	Width x height x depth. Does not include mounting feet
Weight	1.0	kg	
Supply Voltage	24	VDC	50/60 Hz +/- 10%
Ingress Protection (IP) Code	IP64	IP	Ingress Protection to IEC 60529 For unit as supplied, may be affected by holes drilled during installation.
Operating temperature range	0 to +50	deg C	Ambient temperature
Humidity range	10 to 95	%	Relative humidity (Non-condensing) at 45 deg C
Operating altitude	0 to 3,000	m	
Storage temperature range	-20 to +70	deg C	
Input channels	5		
Sensor Cable maximum length	50	m	Only use recommended yellow coloured Sensor Cable
EIA Communication Port	9600	Baud	Parity: none. 8 data bits, 1 stop bit
Visible alarm			LED's
Approvals	CE Marked		
Compliance	Radio Equipment Directive 2014/53/EU Low Voltage Directive 73/23/EEC EMC Directive 89/336/EEC		
Protocols	Proprietary	Addressable from 1-255	