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## LD12 & LD12V 10 or 12 Zone Water Leak Detection Alarm



The LD12 range has been designed to monitor up to 12 independent zones in critical areas for water leaks via liner detection cables or spot sensors. Any number of spot sensors or a maximum of 50 metres of liner water detection cable can be connected to each zone.

The unit comes as standard with monitoring for disconnection / damage to any or all of the twelve zones and includes the interconnecting as well as the water detection cable / sensor. Any disconnection of any detection cable or sensor from the controller will instigate a "Fault" alarm. The unit contains an audible warning device, Mute push button, and volt free contacts for onward signalling.

### *Features*

- \* The unit can be supplied as a 10 or 12 zone system
- \* Large back lit touch screen graphic display
- \* With the exception of mains power, all terminals are of the plug and socket type
- \* Bi-directional DC signal in the sensors to stop electrolyses and polarisation
- \* Individual Zone sensitivity adjustment allowing any zone to be set for high to low sensitivity
- \* Monitoring of each zone cable and sensor to ensure continuity and integrity
- \* On board audible warning device to alert local operators of a problem
- \* Alarms latched until Mute operated to give indication of transient water leaks
- \* Zone signal isolation to stop multiple alarms due to sensors coming into contact with Earth
- \* Common alarm relay contact for onward signalling to a BMS
- \* Common cable Fault and Mains power fault relay contact for onward signalling to a BMS
- \* Optional water shutoff valve control with internal valve closed lights
- \* Optional individual zone alarm relay contacts for onward signal to a BMS
- \* Optional zone alarm water shutoff valves to turn off the water source when a leak is detected
- \* Optional alarm output to a flashing Beacon
- \* Optional alarm output to a flashing Beacon and Muteable Sounder
- \* Optional SMS text messaging to two phone numbers
- \* Optional battery backup

## Operation

In normal operation with no alarms or faults, the audible warning device will be OFF and the display will be showing (a) above. If one or more of the zones has a disconnected or damaged cable, the audible warning device will sound and the display will show “Zone 1 Fault” or 2 etc. as shown in (e) above. If the detection cable or sensor detects water, the audible warning device will sound and the display will show “Water Leak Detected Zone 1” or 2 etc., display (b) above. Once the “Mute Alarm” button has been pressed the display will change to a list of all zone showing their status (Alarm, Fault or Normal).

If water shutoff valves are fitted, and a zone detects water, the appropriate valve will close and the appropriate internal “Closed” lamp will illuminate. The system will automatically open the valve allowing water to flow once more providing the “Mute” button has been operated to acknowledge the alarm, the water leak has been cleared up and the detection cabled dried out. This shutdown can be overridden, See Item 11 below. If multiple alarms occur at the same time, each alarm will need acknowledging by the press of the “Mute” button. i.e., zones 1 & 2 go into water detected alarm at the same time, the audible warning will be activated with “Zone 1 water detected” on display. Pressing “Mute” will stop the audible warning but it will immediately start again, this time the display will be showing “Zone 2 water detected”. This second alarm will also need the “mute” button operated to silence the audible warning.

Each zone is provided with its own sensitivity potentiometer allowing it to be set to high or low sensitivity and should be used for areas known to experience high humidity or water splashes (low sensitivity) or areas requiring small leaks to be detected (High Sensitivity).

As standard a common alarm and common fault / power fault relay is provided that can be used for onward signal to a Building Management Systems, telephone dialler or control systems. The unit if required can also be fitted with individual Alarm relays that will advise a BMS system which zone is in alarm.

If required the unit can be fitted with a 230VAC output to control Water Shut Off valves. Once a zone detects a water leak the zone shutoff valves will turn off the water source until the leak has been cleaned up. If required, the shutdown can be override by using the “Shutdown Override” push button. The button will only be active providing the system has a leak and will need operating for a number of seconds until the horn stops beeping. The same procedure can be used to reclose the shutoff valve and turn off the water source again. A lamp has been provided internally to show if the water shutoff valve is “Close” This is provided for maintenance engineers.

Unlike other water detection units on the market, the range from CMR electrical uses a bi-directional (AC) signal within the sensors. Using alternating current stops electrolyses which causes the sensors to disintegrate leaving the system unable to detect water. The use of alternating current also allows the sensors to be continually monitored even when submersed in water. This allows the system to self reset after water has been removed for the sensor and no further action to reinstate or reset the system is required from the operator. Battery backup for up to six hours can be provided, however if requested, longer backup times can be

Internal Plug-in  
Zone Terminal  
connections



Shutdown Valve and BMS plug-in Terminal

## ***Specification***

Housing type .....	ABS, colour light grey similar to RAL7035
Mounting .....	Wall, flush or surface
Access into Housing .....	Bottom or bottom back
Size Standard unit .....	180mm wide x 255mm high x 80mm deep
Input power .....	50 Hz single phase 230VAC +10% - 6%
Burden .....	< 5VA
Power termination .....	Internal 3 way terminal block
Voltage to sensor .....	Bi-directional 5VDC
Connections to sensor .....	Internal plug-in terminal block
Common Alarm output contacts .....	Changeover contact rated at 1 amp 30VAC/DC
Common Fault output contacts .....	Changeover contact rated at 1 amp 30VAC/DC
Display character size .....	Graphic touch screen 60mm x 44mm