



CMR Electrical Ltd
Bolton House
Five Chimneys Lane
Hadlow Down
East Sussex
TN22 4DX
Tel: 01825 733600

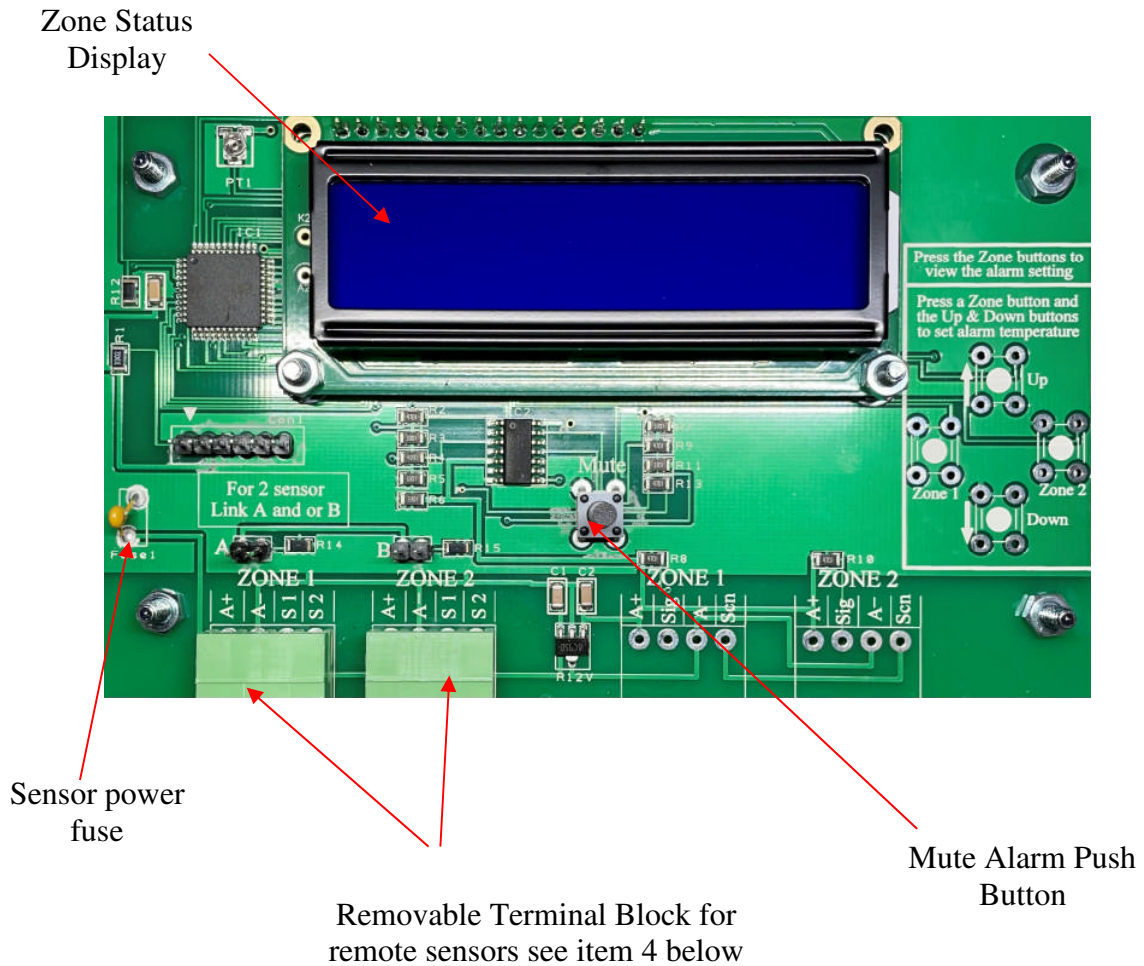
1 and 2 Water Leak Alarm Installation and Operation Manual



Contents

- 1) *Display and Control*
- 2) *Operation*
- 3) *Display Screens*
- 4) *Sensor wiring*
- 5) *Power, BMS, beacon and SMS connections*
- 6) *Beacon and beacon sounder*
- 7) *Fitting an SMS / Email messaging system*
- 8) *Commissioning*
- 9) *Maintenance*
- 10) *Fault Diagnoses*
- 11) *Installation Drawing*

1) Display and Control

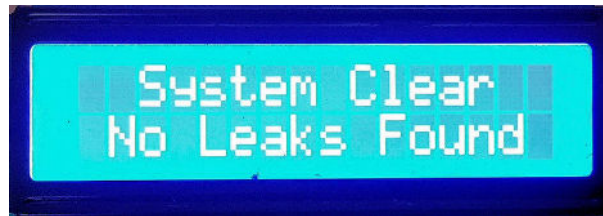


2) Operation

In normal operation with no alarms or faults, the audible warning device will be OFF and the display will be showing screen 1 below. When one of the sensors detects a leak, the audible warning will start pulsing, the display will show the zone in alarm, see screens 2, the common alarm BMS contact will operate, if fitted the zone BMS relay will operate, if fitted, the remote beacon/beacon sounder will operate and if fitted the SMS will send an Alarm message. The unit will remain in this mode until the “Mute” button has been pressed when the display will change to show both zones, see screen 3, the audible warning will stop and if fitted the remote sounder will stop. Once the leak has been cleared up and water removed from the sensor, the system will automatically reset to normal operation. If a sensor becomes disconnected or damaged, the audible warning will sound, and the display will show a leak alarm, see screen 2. The unit will remain in this mode until the “Mute” button is pressed. Once the sensor fault has been rectified, the system will automatically revert to normal running provided the “mute” button has been operated. If the sensor power fuse operates, the audible warning will sound, and the display will show screen 4 below. The unit will remain in this mode until the “Mute” button is pressed. To reset the fuse, turn the alarm unit off and back on again.

3) Display Screens

Screen 1



No leaks have been detected

Screen 2



New water leak found
if 2 zones are used the screen will display
Leak detected at "ZONE 1" or "ZONE 2"

Screen 3



The sensor power fuse has blown

4) Sensor wiring

4a) Only one sensor fitted to each zone

Only fit one sensor per zone to "Sig 1" terminal, do not use "Sig 2" terminals. Using the pluggable 4 way terminals as shown in Item 1 above, connect the sensor to the alarm unit as follows using a 4 core 0.22mm cable such as RS 8124725. The sensor cable should not exceed 100m in length, and should not be run in parallel to, or near, any power cables, bus-bars or any source of electrical or radio interference.

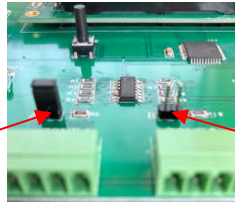
Sensor

<i>Alarm unit Terminal reference</i>	<i>Sensor Cable colour</i>
<i>A+</i>	<i>Red</i>
<i>A-</i>	<i>Black</i>
<i>Sig 1</i>	<i>Blue sensor 1</i>
<i>Sig 2</i>	<i>DO NOT USE</i>

4b) Two sensors fitted to each zone

To be able to fit two sensors to each zone, the two silver pins marked “A” and or “B” must be fitted with a linking connector.

Linking connector fitted so two sensors can be used on this zone



Linking connector NOT fitted so only one sensor can be used on this zone

Using the pluggable 4 way terminals as shown in Item 1 above, connect the sensor to the alarm unit as follows using a 4 core 0.22mm cable. The sensor cable should not exceed 100m in length, and should not be run in parallel to, or near, any power cables, bus-bars or any source of electrical or radio interference.

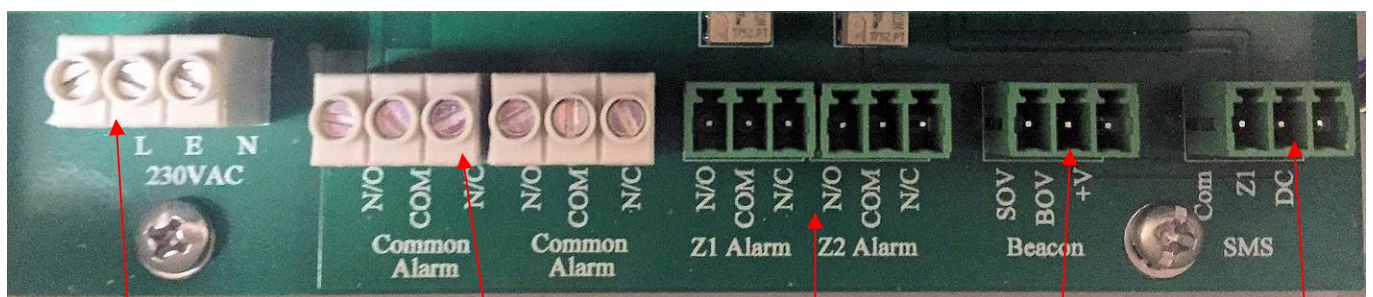
Sensor

Alarm unit Terminal reference	Sensor Cable colour
A+	Red
A-	Black
Sig 1	Blue sensor 1
Sig 2	Blue sensor 2

4c) Retrofitting an additional sensor to a zone

You would have received with the additional sensor a small black (sometimes grey) linking connector, see above picture. First power down the unit and plug the linking connector so it shorts out the two silver pins (“A” or “B”) to the zone you are adding a sensor to, see above picture. Wire in the additional sensor as outlined in Item 4b.

5) Power, BMS, beacon and SMS connections



90 to 265VAC Input power

2 x common alarm and power fault volt free BMS contacts

If Fitted Individual zone alarm contacts to BMS

12VDC output to Beacon or Beacon Sounder

Output to SMS

The Common alarm relay is normally energised, de-energised in alarm or power fault, therefore both “Common Alarm” contacts are identified correctly when the unit is powered and has no current alarms.

Output Volt Free contacts for use by a Building Management System.

<i>Function Required</i>	<i>Fitted as Standard</i>	<i>Relay Output Terminals</i>
Zone 1 alarm	No	Z1 Alarm
Zone 2 alarm	No	Z2 Alarm
Oil leak alarm contact 1 any zone & power fault	Yes	Common Alarm & power fault
Oil leak alarm contact 2 any zone & power fault	Yes	Common Alarm & power fault

BMS relays do not operate for blown fuse or sensor fault

6) Beacon and beacon sounder

If a beacon or beacon sounder is supplied connect to the three terminals identified as “Beacon” as follows.

6a) Non Mutable Beacon or beacon sounder

If the beacon or the beacon sounder is to be active (On all the time) until the water leak alarm has cleared, connect as follows

Terminal reference	Connect Beacon / beacon sounder terminals to the following terminals
+V	Beacon +V or Strobe /Tone + terminal
BOV	Beacon -V or Strobe /Tone - terminal
SOV	NO connection to this terminal

6b) Mutable Beacon or beacon sounder

If the beacon or the beacon sounder is to turn off when the “Mute” push button is pressed connect as follows.

Terminal reference	Connect Beacon / beacon sounder terminals to the following terminals
+V	Beacon +V or Strobe /Tone + terminal
BOV	NO connection to this terminal
SOV	Beacon -V or Strobe /Tone - terminal

6c) Mutable sounder Beacon on all the time

If the beacon is to remain alight all the time an alarm is current but the sounder is to be turned off when the “Mute” push button is pressed connect as follows.

Terminal reference	Connect Beacon / beacon sounder terminals to the following terminals
+V	Strobe and Tone + terminal
BOV	Strobe - terminal
SOV	Tone - terminal

Warning; if the above option “6c” is required, remove the electrical link connected between the second (Strobe -) & third terminals (Tone -) terminals within the sounder.

7) Fitting an SMS / Email messaging system

If an SMS text messaging or Email messaging unit is supplied connect it as follows to the 3 way terminal block identified as “SMS”.

Terminal reference.		Cable wire colours fitted to the messaging system
Z1		BLUE
COM		BLACK
DC		RED

8) Commissioning

Having connected the unit as described above, turn on the mains power to the unit. The display should illuminate display screen 1. Dip zone 1 sensor into a small amount of water and ensure that the alarm unit goes into zone 1 alarm as described in item 2 above. Repeat for zone 2.

9) Maintenance

The system should be fully tested using the commissioning procedure at least once a year for correct operation. A check should also be made on a regular basis or at least every six months to ensure that the sensor is not contaminated with dirt, damaged or has been moved away from its correct location. If the sensor is found to be contaminated with dirt, it should be cleaned using a brush, soapy water, dried off with clean tissue paper and re-tested using the commissioning procedure.

10) Fault Diagnoses

Fault		Possible Reason
Display is OFF and the unit appears dead		1) No power to the control unit. <i>Test with a meter</i> 2) The power fuse has blown. <i>Test the fuse with a meter</i>
Unit displays a leak even though the sensor is clean with no oil touching the sensor.		1) Check the alarm unit's terminal blocks for bad connections 2) Check the field wiring for open or short circuit. 3) Using a short cable link terminal, “A+” & “Sig”, the alarm should clear if it does the field wiring or sensor is faulty. 4) Disconnect the sensor and wire direct to the alarm unit to eliminate the field wiring.
Screen 4 appears in the display		1) The internal sensor fuse has blown due to over current. Unplug both 3 way sensor terminal connections and check the sensor wiring for short circuits. Before re-connecting the sensors, replace the 100mA fuse, the display should change and display zone 1 and 2 as alarm (screen 2). If this screen does not appear, <i>Return unit to manufacturer</i> . If it does appear, plug each zone sensor back in one at a time noting if the fuse blows again and on what zone.
Horn not working		1) System fault. <i>Return to manufacture</i>

11) Installation Drawings

Not all the shown devices may be available on your system

