



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

# 1 and 2 Oil Leak Alarm Installation and Operation Manual

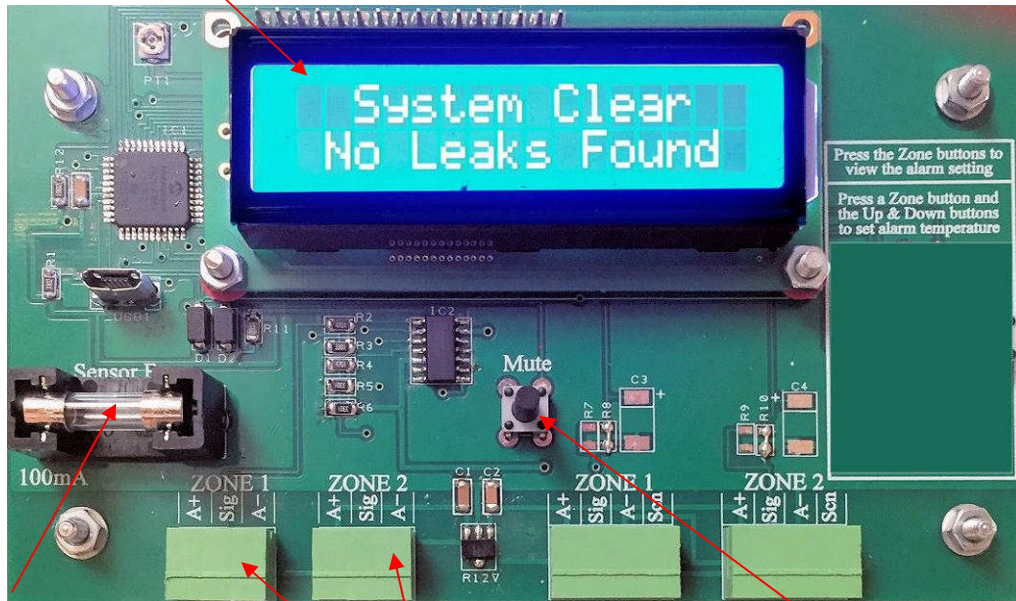


# Contents

- 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) *Fault Diagnoses*
- 10) *Installation Drawings*

## 1) Display and Control

Zone Status  
Display



Sensor power  
fuse

Removable Terminal Block for  
remote sensors see item 4 below

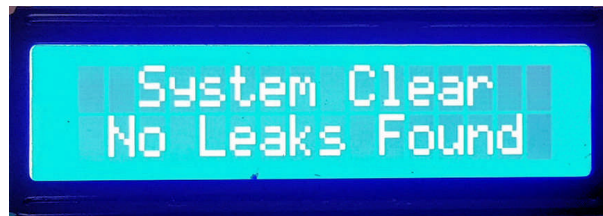
Mute Alarm Push  
Button

## 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 oil 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 oil 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 blows or is removed, 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. Once the sensor fuse has been rectified, the system will automatically revert to normal running provided the “mute” button has been operated.

### 3) Display Screens

*Screen 1*

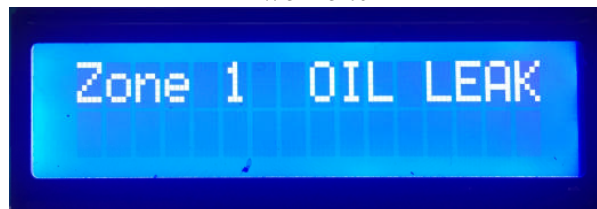


No leaks have been detected

*Screen 2*  
*One Zone*



*Two Zone*



New oil leak found on zone 1

*Screen 3*  
*Two Zone*



Oil leak on zone 1, Alarm has been Muted

*Screen 4*



The sensor power fuse has blown

### 4) Sensor wiring

Using the pluggable 3 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.

**ODS Sensor**

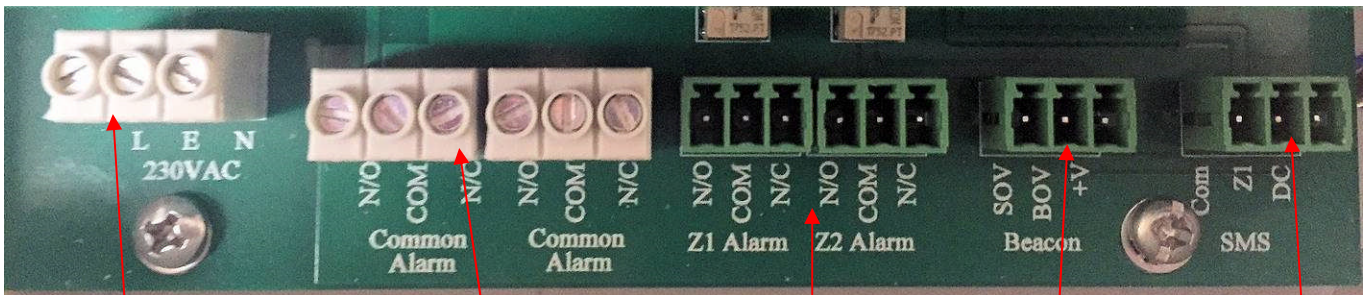
<i>Alarm unit Terminal reference</i>	<i>Sensor Cable colour</i>
A+	<b>Red</b>
Sig	<b>Blue</b>
A-	<b>Black</b>

**OSPW Sensor**

<i>Alarm unit Terminal reference</i>	<i>Sensor Cable colour</i>
A+	<b>Red and Yellow</b>
Sig	<b>Black</b>
A-	<b>Blue</b>

Please note; the difference in the Black & Blue sensor wiring between the ODS and OSPW

**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		<b>BLUE</b>
COM		<b>BLACK</b>
DC		<b>RED</b>

### 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 oil and ensure that the alarm unit goes into zone 1 alarm as described in item 2 above. Repeat for zone 2.

### 9) Fault Diagnoses

<i>Fault</i>		<i>Possible Reason</i>
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 units 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>

**10) Installation Drawings**

**Not all the shown devices may be available on your system**

