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ODS4-3 Three & Four Zone Fuel Oil Leak Alarm Installation and Operation Manual

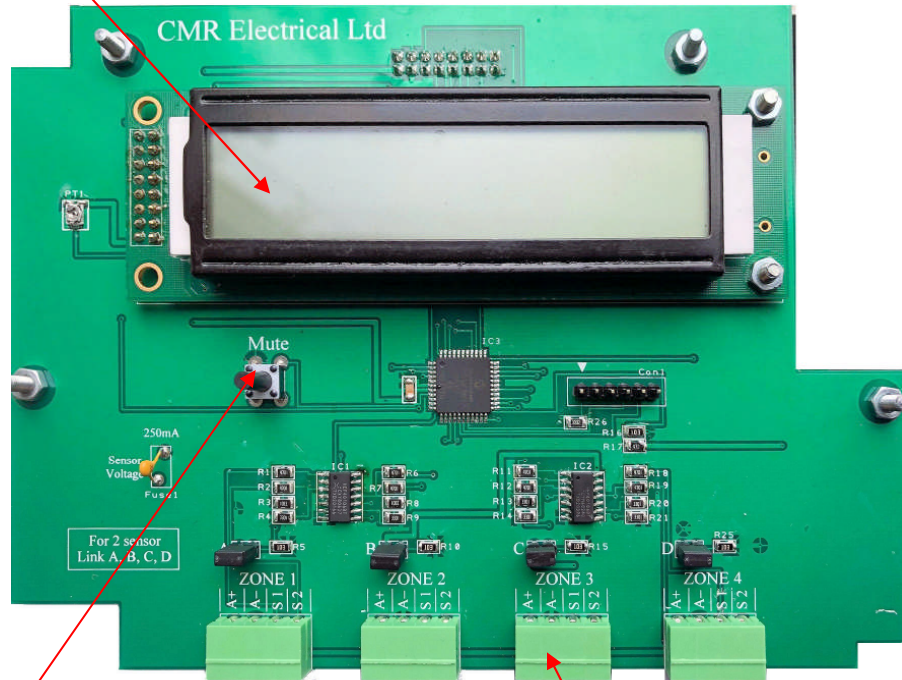


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1) Display and Control

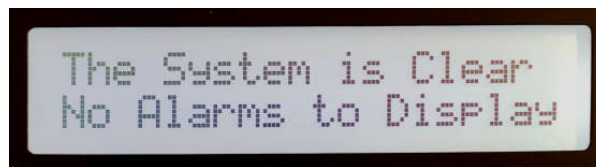
Zone Status
Display



Mute Alarm Push
Button

Removable Terminal Block
for connection to Leak
Sensor see Item 9

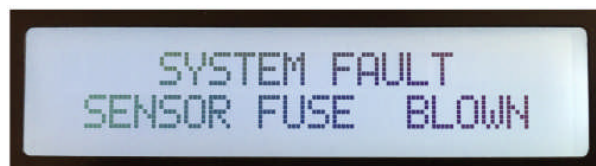
Display Screens



Normal screen



An Oil Leak has been detected on Zone 1



Blown sensor supply fuse

2) Operation

With no oil leaks being detected, the screen will display “The System is Clear No Alarms to Display” and audible warning device will be OFF.

3) Alarm

When one of the detection sensors comes into contact with oil, the audible warning device will sound, the common alarm relay will close and the display will change to advise the sensor zone i.e., “OIL LEAK DETECTED AT ZONE 1”. To stop the audible warning press the “Mute Alarm” button. The system will remain in this state until the Oil has been removed from the sensor. If more than one zones detects an oil leak at the same time, the display will latch on to the lowest numbered zone. Once muted, the display will latch onto the next zone in alarm and start the audible warning device again requiring the “Mute Alarm” button to be pressed again.

4) Screen Back Light

When the system is clear from alarms, the screen back light will be off. Once the unit detects an oil leak the backlight will automatically turn on and remain on until the leak has been cleared.

5) Tripped Sensor Supply fuse

The unit continually monitors the supply fuse that feeds power to the external sensors. If this fuse trips due to power overload, the audible warning will sound, the common Fault relay will de-energise and the display will change to “SYSTEM FAULT SENSOR FUSE BLOWN” to reset the fuse, turn the alarm unit Off, then On.

6) Common fault relay

The system is provided with a common fault relay the is permanently energised. This relay will de-energise when either power is lost to the unit or the fuse on the power supply feeding the sensors has tripped, see Item 5.

7) Display Freeze

When the system detects more than one leak, the screen will display each of the zones that are in alarm for approximately 2 seconds. To freeze the display on a particular screen, press and keep pressed the “Mute Alarm” button.

8) Installation

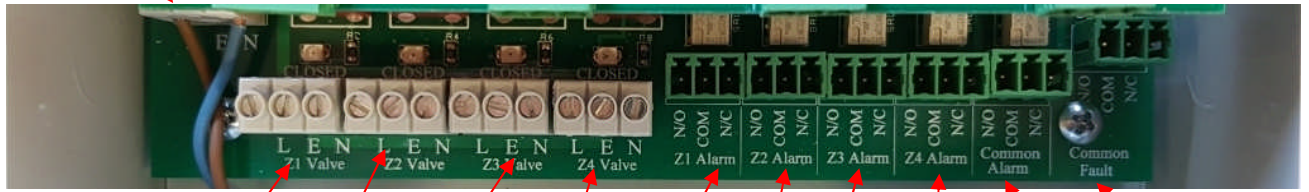
THIS EQUIPMENT SHOULD ONLY BE CONNECTED AND WORKED ON BY A QUALIFIED ELECTRICIAN.

To mount the unit to a wall, first remove the front cover to expose the internal equipment. In each corner of the housing positioned below/above the front cover fixings will be found the mounting holes. Plastic glands have been provided for incoming power and outgoing signal cables. The large gland requiring a 20mm hole within the housing is for the power cable and the smaller gland requiring a 13mm hole within the housing is for the signal cable. Care should be taken when drilling the holes to ensure no damage occurs to the electronic equipment.

A suitably rated 230VAC power cable supply should be run from a fused spur to the unit and terminated to the internal terminal block marked “L”, “E” & “N”. The fuse within the fused spur should be rated at 5 Amps.

Connections within the Alarm Housing

**230VAC
SUPPLY**



If Fitted
230VAC
To Zone 1
Shutdown
Valve

If Fitted
230VAC
To Zone 3
Shutdown
Valve

If Fitted
Zone 1
Output
Alarm
Contact

If Fitted
Zone 3
Output
Alarm
Contact

Common
Alarm
Output
Alarm
Contact

Common
Fault
Output
Alarm
Contact

If Fitted
230VAC
To Zone 2
Shutdown
Valve

If Fitted
230VAC
To Zone 4
Shutdown
Valve

If Fitted
Zone 2
Output
Alarm
Contact

If Fitted
Zone 4
Output
Alarm
Contact

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
Zone 3 alarm	No	Z3 Alarm
Zone 4 alarm	No	Z4 Alarm
Common Alarm (any zone in alarm)	Yes	Common Alarm
Common Fault (Power fault, Blown sensor fuse)	Yes	Common Fault

All Zone wiring and volt free alarm / fault relays wiring is to removable screw type terminal blocks.

9) Sensor wiring

9a) 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.

ODS Sensor

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

ODS-OSPW Sensor

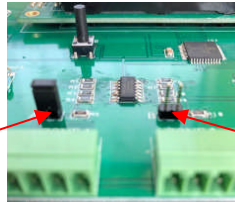
<i>Alarm unit Terminal reference</i>	<i>Sensor Cable colour</i>
A+	Red and Yellow
A-	Blue
Sig 1	Black sensor 1
Sig 2	DO NOT USE

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

9b) 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 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>
<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>Blue sensor 2</i>

ODS-OSPW Sensor

<i>Alarm unit Terminal reference</i>	<i>Sensor Cable colour</i>
<i>A+</i>	<i>Red and Yellow</i>
<i>A-</i>	<i>Blue</i>
<i>Sig 1</i>	<i>Black sensor 1</i>
<i>Sig 2</i>	<i>Black sensor 2</i>

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

9c) 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 9b.

10) Beacon and beacon sounder

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



Sounder Beacon terminal block

10a) 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

10b) 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

10c) Mutable sounder Beacon on all the time

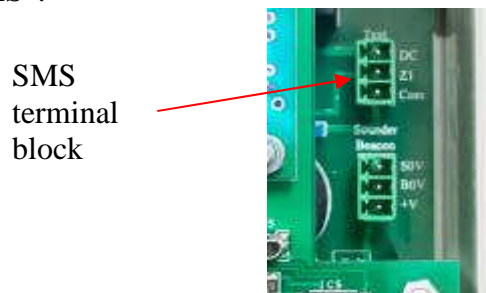
If the beacon is to remain alight all the time an alarm is current but the sounder is to be turned off when the “Mute” push button is pressed connect as follows.

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 “10c” is required, remove the electrical link connected between the second (Strobe -) & third terminals (Tone -) terminals within the sounder.

11) 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

12) Commissioning

Having connected the unit as described above, turn of the mains power to the unit and ensure that the display states “The System is Clear No Alarms to Display” (tip; use the “Screen Light” for better visibility). If any of the zones indicate an alarm and the audible warning sounds, check that the sensor on that zone is clean and not contaminated with a liquid. Using a small sample of oil submerge the black bulb of each sensor into the oil, the audible warning should sound and the appropriate zone alarm should be displayed. Mute the alarm, the sounder should stop, clean off the oil from all sensor and ensure that the display revert back to “The System is Clear No Alarms to Display”, repeat for all other zones.

13) 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 bases 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, soppo water, dried off with clean tissue paper and re-tested using the commission procedure.

14) Wiring

