Made In Britain

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

Contents

1) Display and Control

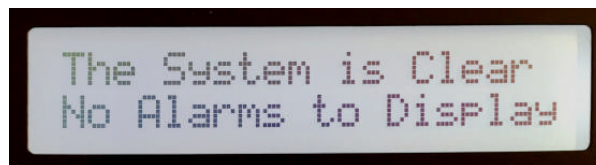Zone Status Display
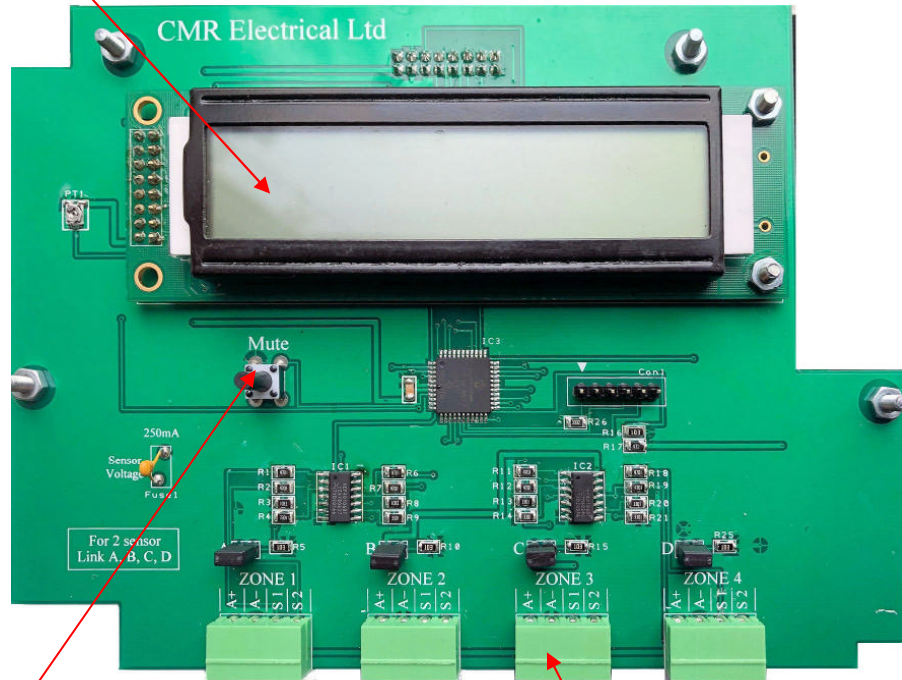
Mute

Mute Alarm Push Button

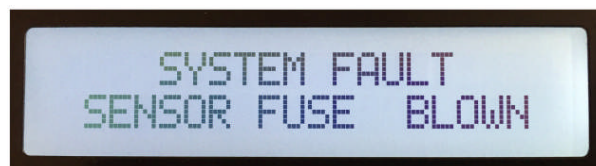Removable Terminal Block for connection to Leak Sensor see Item 9

Display Screens

The System is Clear
No Alarms to Display

Normal screen

OIL LEAK DETECTED
AT ZONE 1

An Oil Leak has been detected on Zone 1

SYSTEM FAULT
SENSOR FUSE BLOWN

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 zone 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 devise again requiring the "Mute Alarm" button to be pressed again.

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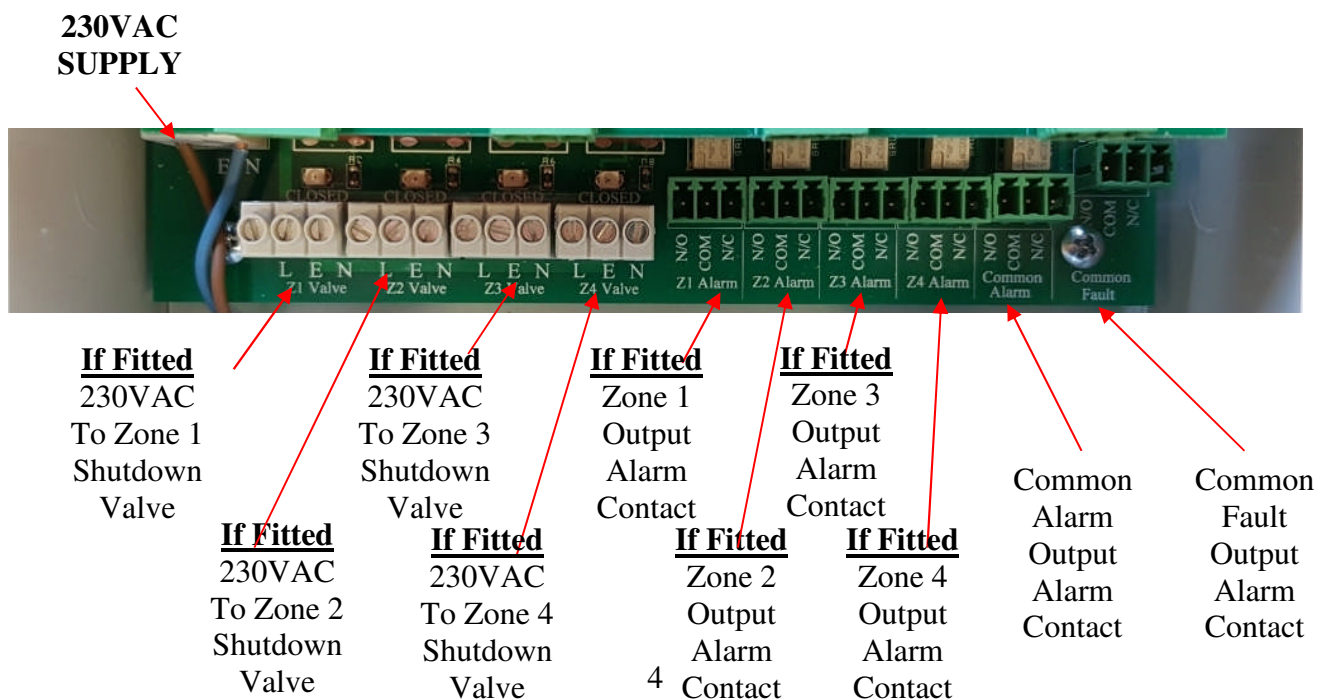
7) Display Freeze
When the system detects more than one leak, the screen will display each of the zones that are in alarm for approximately 2 seconds. To freeze the display on a particular screen, press and keep pressed the "Mute Alarm" button.

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 is a fixing hole that can be used to mounting the housing to a wall. 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 2 Shutdown Valve

If Fitted 230VAC To Zone 3 Shutdown Valve

If Fitted 230VAC To Zone 4 Shutdown Valve

If Fitted Zone 1 Output Alarm Contact

If Fitted Zone 2 Output Alarm Contact

If Fitted Zone 3 Output Alarm Contact

If Fitted Zone 4 Output Alarm Contact

Common Alarm Output Alarm Contact

Common Fault Output Alarm Contact

4

Output Volt Free contacts for use by a Building Management System

Function Required	Fitted as Standard	Relay Output Terminals
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. 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

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

ODS-OSPW Sensor

Alarm unit Terminal reference	Sensor Cable colour
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
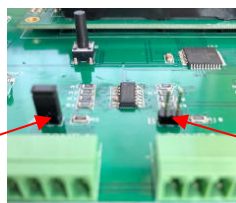
Linking connector NOT fitted so only one sensor can be used on this zone

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. 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

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

ODS-OSPW Sensor

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

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 messaging system

If an SMS text messaging unit is supplied connect it as follows to the 3-way terminal block identified as "SMS".

SMS terminal block

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*. If any of the zones indicate an alarm and the audibled 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, soppy water, dried off with clean tissue paper and re-tested using the commission procedure.

ODS sensor
Not all the shown devices may be available on your system

OSP-OSPW Sensor wiring,
"A+" = Red & Yellow wire
"A-" = Blue wire
"Sig 1 or 2" = Black wire

Zone 1
Sensor type ODS

Sensor 2
Zone 1

Sensor 1
Zone 1

Sensor
wiring
See Item 9
in the
installation
Manual

Mains
3amp
Supply

L E N

Wire zones 2, 3&4
In the same way as
zone 1

ZONE 1 — A+ A- Sig 1 Sig 2
ZONE 2 — A+ A- Sig 1 Sig 2
ZONE 3 — A+ A- Sig 1 Sig 2
ZONE 4 — A+ A- Sig 1 Sig 2

Volt free contacts
to a BMS system

N/O Z1 COM N/C Alarm
N/O Z2 COM N/C Alarm
N/O Z1 COM N/C Alarm
N/O Z2 COM N/C Alarm
N/O Common COM N/C Alarm

Common Fault — N/C COM N/O

Beacon — +V BOV SOV

Tesv/SCA — DC Z1 Com

Strobe
Tone
+V

3 core 0.22mm 12VDC cable

Beacon or
Beacon Sounder
See Item 6 in the
installation
Manual

3 core 0.22mm 12VDC cable

Alarm
SMS Text
Messaging

SMS
See Item 10 in the
installation
Manual

OSPW sensor
Not all the shown devices may be available on your system

OSP-OSPW Sensor wiring,
"A+" = Red & Yellow wire
"A-" = Blue wire
"Sig 1 or 2" = Black wire

Zone 1
Sensor type ODS

Sensor 2
Zone 1

Sensor 1
Zone 1

Sensor wiring
See Item 9 in the installation Manual

Mains 3amp Supply

L E N

A+ A- Sig 1 Sig 2 ZONE 1

A+ A- Sig 1 Sig 2 ZONE 2

A+ A- Sig 1 Sig 2 ZONE 3

A+ A- Sig 1 Sig 2 ZONE 4

Wire zones 2, 3 &4
In the same way as zone 1

Volt free contacts to a BMS system

N/O COM N/C Z1 Alarm
N/O COM N/C Z2 Alarm
N/O COM N/C Z1 Alarm
N/O COM N/C Z2 Alarm
N/O COM N/C Common Alarm

N/C COM N/O Common Fault

Beacon +V BOV SOV

Text/SCA DC Z1 Com

Strobe
Tone
+V

3 core 0.22mm 12VDC cable

3 core 0.22mm 12VDC cable

Beacon or Beacon Sounder
See Item 6 in the installation Manual

Alarm SMS Text Messaging

SMS
See Item 10 in the installation Manual