

# CALIBRATION & FITTING NEW SENSORS

\*\*\*MB & Zone Display may intermittently ALARM during this process. This is OK and will return to normal operation after Calibration is complete. If a strobe/siren is fitted they can be turned off to reduce noise nuisance.\*\*\*

## RECOMMENDED TEST GAS & EQUIPMENT (AVAILABLE FROM PEEL ELECTRONICS)

Recommended Test Gas and Calibration kit is supplied by Peel to ensure accuracy, correct procedure, certification and traceability is adhered to.

- 1.5% CO<sub>2</sub> (Carbon Dioxide), 18.5% O<sub>2</sub> (Oxygen) in N<sub>2</sub> (Nitrogen)
- 0.5L/min Fixed Flow Regulator
- Silicon Hose

## PREPARING THE TEST GAS

-Turn the fixed flow regulator to the "ON" position

Note: This is VERY IMPORTANT so the Test Gas is not diluted!!!

-Screw the Regulator onto the Test Gas Cylinder  
(Regulator should have test hose already attached)

-As soon as Regulator is fitted to Test Gas Cylinder check that Test Gas is flowing out from the end of the Hose, turn regulator to the "OFF" position

-Confirm Gas Pressure is registering on the Regulator Gauge, i.e. Cylinder is not empty

-Ready for Testing



**\*\*\*Important: CO<sub>2</sub> being a toxic gas\*\*\***

**Please follow all precautions for Safe Handling & other Safety Measures as per Material Safety Datasheet**

## CO<sub>2</sub> SENSOR

### **Fitting New CO<sub>2</sub> Sensor**

Turn "POWER" Switch OFF

Hold CO<sub>2</sub> Sensor on the edge of the Module PCB

Carefully remove CO<sub>2</sub> Sensor from sockets. (May require slight see-saw action)

Re-fit New CO<sub>2</sub> Sensor in the same direction

Reset factory alarm levels before Calibration

Turn "POWER" Switch OFF & "TEST" Switch ON

Turn "POWER" Switch ON (Long Continuous Beep 3 Seconds)

Within the first 3 Seconds, Turn "TEST" Switch OFF

After 3 Seconds Turn "POWER" Switch OFF

Factory Alarm Levels Reset



### **Calibration:**

Have Test Gas Prepared and ready to use

Turn "POWER" Switch OFF & "TEST" Switch ON

Apply Test Gas direct to CO<sub>2</sub> Sensor

Turn "POWER" Switch ON (Long Continuous Beep 3 Seconds)

Unit will learn 1.5% Level and Beep once complete (Approx. 1Minute)

Technical Note: Each extra beep indicates the sensor is n x 3.6% lower than default alarm level (@ Sea Level)

ie. 10 Beeps = 9 x 3.6% = 32% lower than default alarm level.

\*\*This Information can be recorded to monitor the ageing of the Sensor\*\*

Remove Test Gas and Turn "TEST" Switch OFF (will enter ALARM Mode with constant beep if left ON)

Calibration Complete, sensor will return to normal operation after 1 minute.



Note: If Learned Gas Level not within the correct range after 1Minute Learn time, unit will enter ALARM Mode with beeping 3sec ON/OFF. Calibration level will not be altered.

Turn "POWER" Switch OFF, Check Test Gas is correct and flowing. Re-try Calibration procedure

If Calibration is still not successful Sensor may require changing

## O2 SENSOR

**\*\*Ensure Area is well vented and has "Clean Air" before fitting new sensor or performing Calibration\*\***  
Where possible use a portable gas detector to confirm this

**\*\*\*While Fitting/Calibrating O2 Sensor be mindful not to exhale breath onto Sensor as reading will be incorrect\*\*\***

### **Fitting New O2 Sensor**

Turn "POWER" Switch OFF

Unplug Sensor connector, cut Cable Tie holding O2 Sensor and Remove

Pre-Bend new Cable Tie & guide through same path of old one

Locate New O2 Sensor in the position/direction and do up Cable Tie to hold sensor.

Cut excess length off

Re-Connect Sensor connector in correct position/orientation

Allow sufficient time for O2 Sensor to equalise with current temperature of the sensor location.

This could be a couple of minutes if storage temperature was similar or much longer (20-30mins) if there is a large difference in temperature.



### **Adjusting New O2 Sensor**

Turn "POWER" Switch ON

Allow Sensor to warm up/stabilize (1 ½ Minutes) 2 Beeps when Ready!

Using Multi-Meter & Test Lead, Set Meter to VDC setting & 20V scale if applicable

Connect Multi-Meter to V-O2 & GND terminal located Bottom Left of O2 Sensor PCB.

The Multi-Meter will now show O2 Sensor voltage

Using a fine flat blade screwdriver adjust the Multi-Turn Pot (Bottom Left of O2 Sensor PCB) to achieve 2.8V  
Adjustment Complete

### **Calibrate Sensor**

**\*\*\*Do Not Adjust Multi-Turn Pot\*\*\***

Turn "POWER" Switch OFF & "TEST" Switch ON

Turn "POWER" Switch ON (Long Continuous Beep 3 Seconds)

Unit will learn Free Air Level and will ALARM once complete (Approx. 1 ½ minutes)

Turn "TEST" Switch OFF (will continue in ALARM Mode with constant beep if left ON)

Calibration Complete, sensor will return to normal operation after 1 ½ minutes

### **Confirm Calibration with Bump Test**

Apply Test Gas direct to Sensor

Within approx. 1minute an ALARM should be triggered

Remove Test Gas, Bump Test Complete



Note: Possible reasons for Failed Bump Test after Calibration:

Test Gas not correct or flowing

Area not ventilated properly

Sensor temperature not equalised properly

Suspect/EOL Sensor

Please Note –

Certain Applications using Peel Gas Detectors may involve potential risks of Death, Personal Injury, or severe property or environmental damage ("Critical Applications"). Peel Gas Detectors are not Authorized, or warranted to be suitable for use in Life-Support Devices or systems or other Critical Applications. Inclusion of Peel Gas Detectors is understood to be fully at the Customer's Risk.