



Sensor Upgrade

Modification Procedure

Commercial in Confidence

Revision history

Date	Rev	By	DCN	Comments	CHKD	CHKD Date	Ext. APPD	Ext. APPD Ref	Ext. APPD Date
26/09/2016	00	DG	2016-0043	Original Issue	PW	31/10/2016	-	-	-
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Warnings, cautions and notes

Warnings and Cautions highlight potential hazards and safety risks. Notes provide supplementary information that is not hazard-related.

- ⚠ WARNING: THIS INDICATES A POTENTIALLY HAZARDOUS SITUATION THAT, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY.**
- ⚠ CAUTION: THIS INDICATES A POTENTIALLY HAZARDOUS SITUATION THAT, IF NOT AVOIDED, COULD RESULT IN EQUIPMENT DAMAGE OR LOSS OF DATA.**
- 📄 NOTE: THIS INDICATES INFORMATION THAT IS CONSIDERED IMPORTANT BUT IS NOT HAZARD RELATED.**

1 Introduction

This document describes the modification of the 10yr O₂NE, 10yr Safe-Ox, O₂NE+ or Safe-Ox+ systems to replace the original 9100-2601/T sensor with the 9100-2650/T sensor.



Original 9100-2601/T sensor



New 9100-2650/T sensor

2 Preparation

⚠ THE DEVICE MUST BE POWERED DOWN AND ELECTRICALLY ISOLATED PRIOR TO CARRYING OUT THE MODIFICATION

2.1 Lid removal

To access interior of device

- [1] Turn the device over so the main label is lower most



- [2] Using a PZ1 screwdriver, remove the four securing screws

Note. Do not use a power assisted screwdriver as these can damage the enclosure screw threads



- [3] With a 15mm spanner, loosen the cable glands

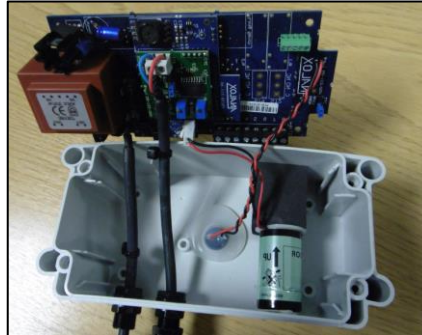


- [4] Turn the device over so the main label is upper most and remove the lid

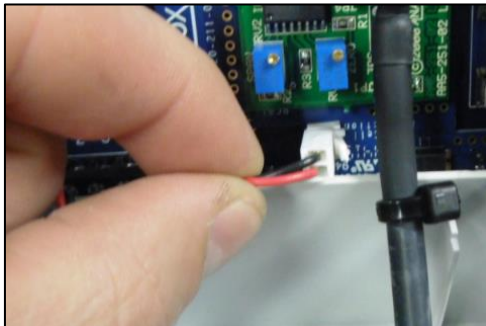


2.2 O₂ sensor removal

[1] Gently lift the main PCB out of the enclosure to allow access to the O₂ sensor. Feed any wires into the enclosure to facilitate this. The image shows a system with 4-20mA PCB fitted, this is an optional extra and is not fitted in all units.



[2] Disconnect and remove the original O₂ sensor



[3] Remove the sponge and gasket



3 Enclosure Modification

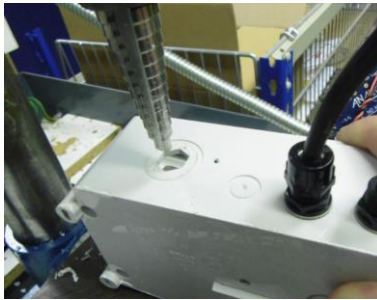
3.1 O₂ aperture modification

⚠️ APPROPRIATE PERSONAL PROTECTION EQUIPMENT SHOULD BE WORN WHEN USING DRILL PRESS

[1] Fit a stepped cutter to the drill press (must include a 16mm step) or hand held drill



[2] Line the device enclosure hexagonal aperture up with the stepped cutter



[3] Slowly lower the stepped cutter until a 16mm hole has been drilled

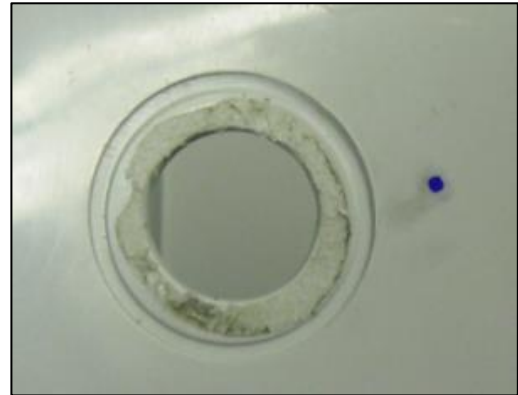
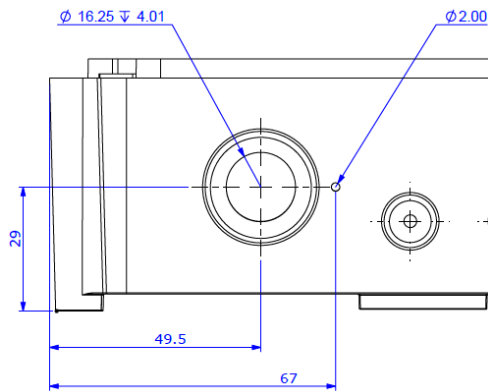


[4] Remove any residual burrs with a deburring tool

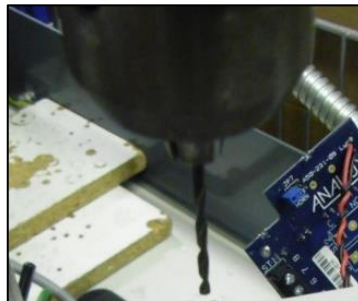


3.2 Breather port

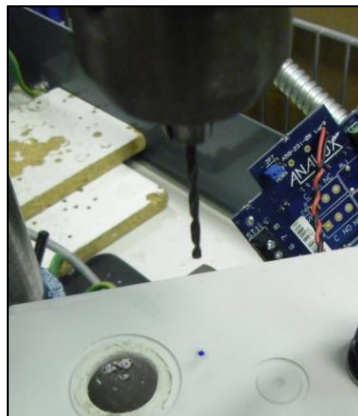
[1] With a marker and ruler, identify the point at which 67mm from the left hand side of the device and 29mm from the bottom edge intersect



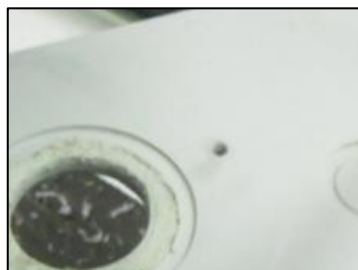
[2] Fit a 2mm drill bit to the drill press or hand held drill



[3] Line the mark up with the drill bit



[4] Slowly lower the drill bit until a hole has been drilled in the enclosure



[5] Remove any residual burrs with a sharp blade (as applicable)

- [6] **Clean the inside and outside faces of the two holes with solvent**



- [7] **Fit a hydrophobic membrane (1000-1600) over the hole (internal to device)**



- [8] **Modification is now complete, follow the Oxygen cell replacement procedure as detailed in P0120-820 O₂NE+ & Safe-Ox+ User Manual**