



VIAMED



Fax

FAXED
11/4/01

To : Neil Rollins,

From : Simon Watmough.

PM Electronics.

Fax : 01274 720788.

Pages : 1.

Phone :

Date : 7-2-01.

Re : "Quick Ox" prototype.

CC :

☐ Urgent ☐ For Review ☒ Please Comment ☒ Please Reply ☐ Please Recycle

• **Comments :**

Dear Neil,

I am in the process of carrying out a detailed evaluation of the prototype you have left with us.

I have the following few queries on the circuit :-

1. The spec of the oxygen sensor is $10 \pm 3\text{mV}$. The only indication to the user that a cell is out of tolerance is the display on the DPM. Therefore, we cannot allow any cell with a out of tolerance output to be able to be cal'd with RV1, deriving a valid display. I have calculated the values of RV1 : R4 to be a ratio of 10 : 11.66 or thereabouts. Have you any objections to changing the values of RV1/R4 to 10k & 12k respectively ?
2. Is R1 fitted purely to balance the inputs to IC1A ?
3. Gain of IC1A – currently set to 276 (measured at 337.5). The output of the cell will increase when in 100% O2 by roughly a factor of 5. With the mod in (1) incorporated, the voltage on IC1A pin 3 will be 7mV in air and 35mV in 100% O2. Will the latter not saturate the amp ? We would ideally like a design which can have high/low alarms at any level (high alarm subject to fit).

I will be in touch with any further "problems" as the day goes on.

With regards,

Simon.