

VM3COP38.20 AX/MX300 Calibration Test

Before using this calibration test procedure, the user should refer to the appropriate AX300 or MX300 user manual (Revision 1.4).

Required equipment: Time Electronics LTD Microcal 1030 – Calibrated Voltage source (CE076) - Calibration traceable to UKAS calibration standards. The specifications can be found on Document ID 30969.

Test lead – 3.5 mm jack to 4 mm banana plugs.

- 1) Connect the Microcal to the AX/MX300 analyser using the test lead as shown.



- 2) Set the Microcal to 100 mV scale and the polarity switch to NORM.



- 3) Set the output adjustment dial to 50.0mV.
- 4) Power up the AX/300 analyser.
- 5) Press the CAL button on the front panel to calibrate the analyser. During the calibration procedure the analyser will count down from 9 to 0.



- 6) At the end of the calibration procedure the analyser should display 100.0. If the AX/MX300 analyser fails to calibrate, check the connections and repeat the test.

The Microcal is simulating the output of an Oxygen sensor reading a 100% Oxygen concentration. By decreasing the output of the Microcal to set values, the accuracy of the AX/MX300 analyser can be determined across a range of simulated Oxygen concentrations.



- 7) In turn, dial in the input voltages from the table below. Record the values on the certificate (VM3COP38.21).
- 8) Save the document and upload to the Intrastats calibration index.
- 9) Print a copy on Viamed letter headed paper.



Microcal output	AX/MX300 expected reading ($\leq 2\%$ relative)
50.0 mV	100% (98.0% - 102.0%)
45.0 mV	90% (88.2% - 91.8%)
40.0 mV	80% (78.4% - 81.6%)
35.0 mV	70% (68.6% - 71.4%)
30.0 mV	60% (58.8% - 61.2%)
25.0 mV	50% (49.0% - 51.0%)
20.0 mV	40% (39.2% - 40.8%)
15.0 mV	30% (29.4% - 30.6%)
10.5 mV	20.9% (20.5% - 21.3%)
9.0 mV	18% (17.6% - 18.4%)