AANDERAA DATA INSTRUMENTS

TEST & SPECIFICATIONS

Layout No: 1308E, 1299G
Circuit Diagram No:
Program Version: 3, Build: 11

Product: Oxygen Optode 3835
Serial No: 1273

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1. Visual and Mechanical Checks:

1.1. O-ring surface
1.2. Soldering quality
1.3. Visual surface
1.4. Galvanic isolation between housing and electronics

2. Current Drain and Voltages:

2.1. Average current drain at 0.5Hz sampling (Max: 38mA)	32 mA
2.2. Current drain in sleep (Max: 300µA)	209 µA
2.3. Quiescent current drain from –9V (Max: 5µA)	0 µA
2.4. DSP voltage, IC5.1 (3.3 ±0.15V)	3.29 V
2.5. Excitation driver voltage, IC1.1 (3.3 ±0.15V)	3.31 V
2.6. Flash/RS232 driver voltage, IC7.4 (5 ±0.2V)	5.08 V

3. Receiver test:

3.1. Average of Receiver readings (0 ±50mV)	-4 mV
3.2. Standard Deviation of Receiver readings (Max: 10mV)	2.01 mV

4. Performance Test in Air, 0°C Temperature:

4.1. Amplitude measurement (Blue: 220 – 470mV)	396.54 mV
4.2. Phase measurement (Blue: 30 ±5)	32.9 °
4.3. Standard deviation of Phase measurement: (Max: 0.02°)	0.004 °
4.4. Temperature measurement: (700 ±300mV)	547.04 mV
4.5. SR10 Output tested (Set_Output(-100))	

5. Performance Test in Air, 20°C Temperature:

5.1. Amplitude measurement (Blue: 290 – 470mV)	384.21 mV
5.2. Phase measurement (Blue: 25 ±5°)	28.0 °
5.3. Standard deviation of Phase measurement: (Max: 0.02°)	0.023 °
5.4. Temperature measurement: (100 ±300mV)	-47.97 mV
5.5. SR10 Output tested (Set_Output(-100))	

6. Performance Test in Air, 40°C Temperature:

6.1. Amplitude measurement (Blue: 320 – 500mV)	386.47 mV
6.2. Phase measurement (Blue: 22 ±5°)	24.9 °
6.3. Standard deviation of Phase measurement: (Max: 0.02°)	0.007 °
6.4. Temperature measurement: (-500 ±300mV)	-653.81 mV
6.5. SR10 Output tested (Set_Output(-100))	

Date: 25 Mars 2010

Sign:

Vidar Selsvik, Production Engineer

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CALIBRATION CERTIFICATE

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Sensing Foil Batch No: 4909
Certificate No:

Product: Oxygen Optode 3835
Serial No: 1273
Calibration Date: 24 Mars 2010

This is to certify that this product has been calibrated using the following instruments:

Calibration Bath model FNT	321-1-40
ASL Digital Thermometer model F250	Serial: 6792/06

Parameter: Internal Temperature:

Calibration points and readings:

Temperature (°C)	1.16	12.11	24.11	36.08
Reading (mV)	640.36	280.09	-119.10	-479.75

Giving these coefficients

Index	0	1	2	3
TempCoef	2.04544E01	-3.02660E-02	2.82719E-06	-4.08156E-09

Parameter: Oxygen:

	O2 Concentration	Air Saturation
Range:	0-500 µM [1]	0 - 120%
Accuracy[1]:	< ±8µM or ±5% (whichever is greater)	±5%
Resolution:	< 1 µM	< 0.4%
Settling Time (63%):	< 25 seconds	

Calibration points and readings[2]:

	Air Saturated Water	Zero Solution (Na_2SO_3)
Phase reading (°)	3.19795E+01	6.63686E+01
Temperature reading (°C)	9.91707E+00	1.97935E+01
Air Pressure (hPa)	9.98479E+02	

Giving these coefficients

Index	0	1	2	3
PhaseCoef	-2.65212E00	1.12654E00	0.00000E00	0.00000E00

[1] *Valid for 0 to 2000m (6562ft) depth, salinity 33 - 37ppt*

[2] *The calibration is performed in fresh water and the salinity setting is set to: 0*

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