



# CALIBRATION CERTIFICATE

Form No. 710. Dec 2005

## AANDERAA DATA INSTRUMENTS

Sensing Foil Batch No: 2408  
Certificate No: 3835 22 1039

Product: 3835  
Serial No: 22  
Calibration Date: June 8, 2010

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

Fluke CHUB E-4	Serial No. A7C677
Fluke 5615 PRT	Serial No. 802056
Fluke 5615 PRT	Serial No. 802676
Fluke 5615 PRT	Serial No. 802057
Fluke 5615 PRT	Serial No. 802054
Calibration Bath model FNT 321-1-40	

### Parameter: Internal Temperature:

#### Calibration points and readings:

Temperature (°C)	-	-	-	-
Reading (mV)	-	-	-	-

#### Giving these coefficients

Index	0	1	2	3
TempCoef	1.9654E+01	-3.0318E-02	2.8486E-06	-4.0994E-09

### Parameter: Oxygen:

	O2 Concentration	Air Saturation
Range:	0-500 $\mu\text{M}$ <sup>1)</sup>	0 - 120%
Accuracy <sup>1)</sup> :	< $\pm 8\mu\text{M}$ or $\pm 5\%$ (whichever is greater)	$\pm 5\%$
Resolution:	< 1 $\mu\text{M}$	< 0.4%

#### Calibration points and readings<sup>2)</sup>:

	Air Saturated Water	Zero Solution (Na <sub>2</sub> SO <sub>3</sub> )
Phase reading (°)	2.6074E+01	6.1997E+01
Temperature reading (°C)	9.9162E+00	1.0321E+01
Air Pressure (hPa)	1.0115E+03	

#### Giving these coefficients

Index	0	1	2	3
PhaseCoef	7.6945E+00	1.0665E+00	0.0000E+00	0.0000E+00

<sup>1)</sup> Valid for 0 to 2000m (6562ft) depth, salinity 33 - 37ppt

<sup>2)</sup> The calibration is performed in fresh water and the salinity setting is set to: 0

Date:  
June 8, 2010

Sign: Shawn A. Sneddon

  
Service and Calibration Assistant

AANDERAA DATA INSTRUMENTS, INC

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### SR10 Scaling Coefficients:

At the SR10 output the Oxygen Optode 3830 can give either absolute oxygen concentration in  $\mu\text{M}$  or air saturation (%). The setting of the internal property "Output" 3), controls the selection of the unit. The coefficients for converting SR10 raw data to engineering units are fixed.

Output = -1	Output = -2
A = 0	A = 0
B = 4.883E-01	B = 1.465E-01
C = 0	C = 0
D = 0	D = 0
Oxygen ( $\mu\text{M}$ ) = A + BN + CN2 + DN3	Oxygen (%) = A + BN + CN2 + DN3

<sup>3)</sup> The default output setting is set to -1

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# TEST & SPECIFICATIONS

Form No. 620, Nov 2005

AANDERAA DATA INSTRUMENTS

Layout No:  
Circuit Diagram No:  
Program Version:

Product: 3835  
Serial No: 22

**1. Visual and Mechanical Checks:**

- 1.1. O-ring surface OK
- 1.2. Soldering quality
- 1.3. Visual surface OK
- 1.4. Pressure test (60MPa)
- 1.5. Galvanic isolation between housing and electronics OK

**2. Current Drain and Voltages:**

- 2.1. Average current drain at 0.5Hz sampling (Max: 38mA) 28.9 mA
- 2.2. Current drain in sleep (Max: 300µA) 187 µA

**3. Performance Test in Air, 20°C Temperature:**

- 3.1. Amplitude measurement (Blue: 290 – 470mV) 339.11 mV
- 3.2. Phase measurement (Blue: 25 ±5°) 24.46 °
- 3.3. Temperature Measurement (100 ± 300mV) -138.33 mV

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