

Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0719

SBE 43I OXYGEN CALIBRATION DATA

CALIBRATION DATE: 23-Sep-15

COEFFICIENTS:

Soc = 1.3329e-004

Foffset = -3285.06

Tau20 = 3.90

A = -3.4524e-003

B = 1.9021e-004

C = -2.9090e-006

E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4

D2 = -4.64803e-2

H1 = -3.300000e-2

H2 = 5.00000e+3

H3 = 1.45000e+3

BATH OX (ml/l)	BATH TEMP (ITS-90)	BATH SAL (PSU)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT OXYGEN (ml/l)	RESIDUAL (ml/l)
1.20	20.00	0.00	4731.00	1.21	0.00
1.21	26.00	0.00	4904.96	1.21	0.00
1.21	30.00	0.00	5027.29	1.21	0.00
1.22	6.00	0.00	4354.64	1.22	0.00
1.23	12.00	0.00	4527.67	1.23	-0.00
1.29	2.00	0.00	4287.62	1.29	-0.00
3.97	12.00	0.00	7308.61	3.97	-0.00
3.97	20.00	0.00	8042.92	3.97	-0.00
3.97	26.00	0.00	8601.33	3.97	0.00
3.98	30.00	0.00	8989.83	3.98	0.00
3.99	6.00	0.00	6771.85	3.99	-0.00
4.00	2.00	0.00	6401.30	3.99	-0.00
6.70	30.00	0.00	12889.14	6.70	-0.00
6.71	6.00	0.00	9153.70	6.71	0.00
6.72	26.00	0.00	12274.93	6.72	0.00
6.72	2.00	0.00	8529.45	6.72	0.00
6.72	12.00	0.00	10100.98	6.72	-0.00
6.73	20.00	0.00	11349.41	6.73	-0.00

$$\text{Oxygen (ml/l)} = \text{Soc} * (\text{F} + \text{Foffset}) * (1.0 + \text{A} * \text{T} + \text{B} * \text{T}^2 + \text{C} * \text{T}^3) * \text{OxSol}(\text{T}, \text{S}) * \exp(\text{E} * \text{P} / \text{K})$$

F = frequency output from SBE43I, T = temperature [deg C], S = salinity [PSU], K = temperature [deg K]

OxSol(T,S) = oxygen saturation [ml/l], P = pressure [dbar]

Residual = instrument oxygen - bath oxygen

