

Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0212

SBE 43F OXYGEN CALIBRATION DATA

CALIBRATION DATE: 21-May-14

COEFFICIENTS:

A = -2.7123e-003
Soc = 2.9681e-004 (adj)
Foffset = -787.66
Tau20 = 1.56

B = 2.0315e-004
C = -3.8309e-006
E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4 H1 = -3.300000e-2
D2 = -4.64803e-2 H2 = 5.00000e+3
H3 = 1.45000e+3

Soc = 2.9266e-004 (DI). Adjustment from single-point measurement 28-May-14

BATH OX (ml/l)	BATH TEMP (ITS-90)	BATH SAL (PSU)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT OXYGEN (ml/l)	RESIDUAL (ml/l)
1.24	2.00	0.00	1228.359	1.24	0.00
1.24	6.00	0.00	1280.398	1.24	0.00
1.26	12.00	0.00	1363.299	1.26	-0.00
1.27	20.00	0.00	1472.862	1.27	-0.00
1.29	26.00	0.00	1565.639	1.29	-0.00
1.30	30.00	0.00	1625.783	1.29	-0.00
3.96	2.00	0.00	2192.046	3.96	0.00
3.97	5.99	0.00	2362.276	3.98	0.00
4.00	12.00	0.00	2617.481	4.00	0.00
4.02	20.00	0.00	2956.587	4.02	0.00
4.07	26.00	0.00	3238.010	4.07	0.00
4.07	30.00	0.00	3424.434	4.07	0.00
6.70	2.00	0.00	3163.587	6.70	-0.00
6.72	6.00	0.00	3450.933	6.72	-0.00
6.76	12.00	0.00	3880.516	6.76	-0.00
6.78	30.00	0.00	5179.279	6.78	0.00
6.81	26.00	0.00	4885.814	6.81	-0.00
6.86	20.00	0.00	4489.273	6.87	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 SBE43F, 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

