

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1366  
CALIBRATION DATE: 03-Nov-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.83523016e-003  
h = 6.77572657e-004  
i = 2.63036409e-005  
j = 2.08770796e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121332e-003  
b = 6.02948422e-004  
c = 1.49800992e-005  
d = 2.08915467e-006  
f0 = 6124.746

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6124.746	-1.5001	0.00003
0.9999	6475.993	0.9999	-0.00000
4.4999	6991.746	4.4998	-0.00006
7.9999	7536.219	7.9999	-0.00003
11.4998	8110.135	11.4999	0.00006
14.9999	8714.239	14.9999	0.00004
18.4999	9349.197	18.4999	0.00002
21.9999	10015.690	21.9999	-0.00004
25.4999	10714.386	25.4999	-0.00005
28.9998	11445.883	28.9998	0.00001
32.4998	12210.797	32.4998	0.00002

Temperature ITS-90 =  $1/\{g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)]\} - 273.15$  (°C)

Temperature IPTS-68 =  $1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

