

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1371  
CALIBRATION DATE: 16-Jun-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.83454141e-003  
h = 6.79518694e-004  
i = 2.71171361e-005  
j = 2.17820696e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121329e-003  
b = 6.02943167e-004  
c = 1.53242041e-005  
d = 2.17969207e-006  
f0 = 6103.623

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6103.623	-1.5001	0.00003
0.9999	6453.668	0.9999	-0.00004
4.4999	6967.717	4.4999	-0.00001
7.9999	7510.422	7.9999	0.00000
11.4999	8082.530	11.4999	-0.00001
14.9999	8684.777	14.9999	0.00002
18.4999	9317.852	18.4999	0.00003
21.9999	9982.430	21.9999	0.00002
25.4999	10679.155	25.4999	-0.00004
28.9999	11408.670	28.9999	-0.00004
32.4999	12171.575	32.4999	0.00004

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

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

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

Residual = instrument temperature - bath temperature

