

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1367  
CALIBRATION DATE: 06-Jul-06

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86127517e-003  
h = 6.77017333e-004  
i = 2.74975004e-005  
j = 2.23053490e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121387e-003  
b = 5.97941880e-004  
c = 1.50602749e-005  
d = 2.23199671e-006  
f0 = 6440.856

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6440.856	-1.5001	-0.00002
0.9999	6813.434	0.9999	0.00002
4.4999	7360.845	4.4999	0.00002
7.9999	7939.123	7.9998	-0.00005
11.4999	8549.122	11.4999	0.00001
14.9999	9191.611	14.9999	0.00002
18.4999	9867.359	18.4999	-0.00001
21.9999	10577.134	21.9999	0.00002
25.4999	11321.624	25.4999	-0.00002
28.9999	12101.544	28.9999	0.00001
32.4999	12917.526	32.4999	-0.00000

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 ITS-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

