

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1369  
CALIBRATION DATE: 16-Jun-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.83441573e-003  
h = 6.75125273e-004  
i = 2.55586456e-005  
j = 1.97650647e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121301e-003  
b = 6.02015108e-004  
c = 1.48215107e-005  
d = 1.97792409e-006  
f0 = 6143.460

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6143.460	-1.5001	0.00005
0.9999	6496.323	0.9998	-0.00008
4.4999	7014.538	4.4999	0.00002
7.9999	7561.628	7.9999	0.00001
11.4999	8138.366	11.4999	-0.00001
14.9999	8745.498	14.9999	0.00003
18.4999	9383.710	18.4999	0.00001
21.9999	10053.701	21.9999	-0.00000
25.4999	10756.124	25.4999	-0.00003
28.9999	11491.627	28.9999	-0.00002
32.4999	12260.810	32.4999	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

