

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1364  
CALIBRATION DATE: 26-Jan-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.84864694e-003  
h = 6.78824752e-004  
i = 2.53740904e-005  
j = 1.88230546e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121339e-003  
b = 6.05081533e-004  
c = 1.50805899e-005  
d = 1.88373757e-006  
f0 = 6219.771

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5002	6219.771	-1.5001	0.00012
0.9998	6575.148	0.9997	-0.00009
4.4998	7096.890	4.4997	-0.00013
7.9998	7647.543	7.9997	-0.00011
11.4998	8227.890	11.4999	0.00013
14.9999	8838.630	15.0002	0.00030
18.4999	9480.359	18.4999	0.00001
21.9999	10153.860	21.9996	-0.00025
25.4998	10859.857	25.4997	-0.00007
28.9998	11598.917	28.9998	0.00002
32.4998	12371.635	32.4999	0.00007

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

