

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1384  
CALIBRATION DATE: 20-Jul-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86994976e-003  
h = 6.80532790e-004  
i = 2.70605850e-005  
j = 2.14508763e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121225e-003  
b = 6.02138339e-004  
c = 1.50887314e-005  
d = 2.14654789e-006  
f0 = 6453.326

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6453.326	-1.5000	0.00001
1.0000	6823.938	1.0000	0.00001
4.5000	7368.191	4.5000	-0.00002
8.0000	7942.816	8.0000	-0.00004
11.4999	8548.607	11.5000	0.00007
15.0000	9186.333	15.0000	-0.00000
18.5000	9856.724	18.5000	-0.00002
21.9999	10560.495	21.9999	0.00001
25.4999	11298.349	25.4999	-0.00002
28.9999	12070.950	28.9999	0.00000
32.4999	12878.913	32.4999	0.00001

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

