

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1008  
CALIBRATION DATE: 09-Feb-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.80508004e-003  
h = 6.75982415e-004  
i = 2.77100061e-005  
j = 2.30973916e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121505e-003  
b = 5.99671645e-004  
c = 1.54564730e-005  
d = 2.31124440e-006  
f0 = 5884.437

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5002	5884.437	-1.5002	-0.00000
0.9998	6223.825	0.9998	0.00001
4.4999	6722.428	4.4999	-0.00002
7.9999	7249.077	7.9999	0.00001
11.4998	7804.500	11.4998	0.00000
14.9998	8389.459	14.9998	0.00001
18.4998	9004.630	18.4998	-0.00000
21.9998	9650.688	21.9998	-0.00002
25.4998	10328.289	25.4998	0.00000
28.9998	11038.045	28.9998	0.00002
32.4999	11780.557	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

