

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1075  
 CALIBRATION DATE: 21-May-09

SBE3 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86477703e-003  
 h = 6.82472057e-004  
 i = 2.67449269e-005  
 j = 1.99073433e-006  
 f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121342e-003  
 b = 6.04106123e-004  
 c = 1.57247182e-005  
 d = 1.99222635e-006  
 f0 = 6359.031

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6359.031	-1.5001	0.00002
0.9999	6723.018	0.9999	-0.00002
4.4999	7257.512	4.4999	-0.00001
7.9999	7821.788	7.9999	-0.00001
11.4999	8416.638	11.4999	-0.00001
14.9999	9042.841	15.0000	0.00007
18.4999	9701.095	18.4999	-0.00002
21.9999	10392.166	21.9999	-0.00001
25.4999	11116.727	25.4999	-0.00002
28.9999	11875.453	28.9999	-0.00001
32.4999	12668.979	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

