

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2946  
CALIBRATION DATE: 21-Aug-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.34413389e-003  
h = 6.39385021e-004  
i = 2.15522291e-005  
j = 1.87032573e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121344e-003  
b = 5.99772234e-004  
c = 1.55648120e-005  
d = 1.87178021e-006  
f0 = 2921.060

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	2921.060	-1.5001	0.00002
0.9999	3089.503	0.9999	-0.00002
4.4999	3336.977	4.4999	0.00001
7.9999	3598.385	7.9999	-0.00004
11.4998	3874.114	11.4998	0.00002
14.9999	4164.549	15.0000	0.00007
18.4999	4470.013	18.4999	-0.00003
21.9999	4790.881	21.9998	-0.00006
25.4999	5127.495	25.4999	0.00001
28.9998	5480.156	28.9998	0.00003
32.4999	5849.206	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

