

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2946  
CALIBRATION DATE: 23-Feb-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.34411434e-003  
h = 6.39323067e-004  
i = 2.15060856e-005  
j = 1.85714973e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121223e-003  
b = 5.99763199e-004  
c = 1.55609347e-005  
d = 1.85860232e-006  
f0 = 2921.115

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2921.115	-1.5000	0.00001
1.0000	3089.565	1.0000	-0.00001
4.5000	3337.048	4.5000	0.00003
8.0001	3598.472	8.0001	-0.00004
11.5000	3874.210	11.5000	-0.00000
15.0000	4164.648	15.0000	0.00004
18.5000	4470.127	18.5000	-0.00004
22.0000	4791.023	22.0001	0.00005
25.5000	5127.644	25.5000	-0.00000
29.0000	5480.329	28.9999	-0.00006
32.5000	5849.408	32.5000	0.00003

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

