

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 5140  
CALIBRATION DATE: 18-Feb-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.36486155e-003  
h = 6.41428593e-004  
i = 2.26178538e-005  
j = 2.15180306e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121226e-003  
b = 5.99491996e-004  
c = 1.55162545e-005  
d = 2.15329139e-006  
f0 = 3017.156

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	3017.156	-1.5000	0.00000
1.0000	3191.225	1.0000	-0.00001
4.5000	3446.964	4.5000	0.00002
8.0000	3717.102	8.0000	-0.00003
11.5000	4002.036	11.5000	-0.00001
15.0000	4302.142	15.0001	0.00007
18.5000	4617.763	18.5000	-0.00003
22.0000	4949.273	21.9999	-0.00005
25.5000	5297.016	25.5000	0.00004
29.0000	5661.293	29.0000	0.00001
32.5000	6042.430	32.5000	-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

