

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2533  
CALIBRATION DATE: 15-Mar-05

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.36986498e-003  
h = 6.47521566e-004  
i = 2.37697981e-005  
j = 2.23761603e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68120978e-003  
b = 6.03379150e-004  
c = 1.63892425e-005  
d = 2.23919095e-006  
f0 = 3014.989

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4998	3014.989	-1.4998	-0.00001
1.0002	3187.797	1.0003	0.00005
4.5002	3441.600	4.5002	-0.00001
8.0002	3709.614	8.0001	-0.00011
11.5002	3992.239	11.5002	-0.00000
15.0002	4289.829	15.0003	0.00010
18.5002	4602.729	18.5003	0.00007
22.0002	4931.290	22.0002	-0.00003
25.5003	5275.863	25.5002	-0.00011
29.0002	5636.758	29.0002	0.00002
32.5003	6014.289	32.5003	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 ITS-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

