

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1324  
CALIBRATION DATE: 19-Oct-02

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.35185170e-003  
h = 6.39195275e-004  
i = 2.12359105e-005  
j = 1.74728923e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121134e-003  
b = 5.99435527e-004  
c = 1.55767134e-005  
d = 1.74872693e-006  
f0 = 2958.877

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4999	2958.877	-1.4999	-0.00003
1.0002	3129.612	1.0002	0.00001
4.5001	3380.446	4.5002	0.00011
8.0002	3645.419	8.0001	-0.00009
11.5002	3924.939	11.5002	-0.00004
15.0002	4219.377	15.0002	0.00003
18.5002	4529.092	18.5002	0.00001
22.0002	4854.453	22.0002	0.00002
25.5002	5195.802	25.5002	-0.00001
29.0002	5553.482	29.0002	0.00001
32.5002	5927.810	32.5002	-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 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

