

# SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 2490  
CALIBRATION DATE: 05-Aug-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.32807162e-003  
h = 6.33302313e-004  
i = 2.14327702e-005  
j = 1.76940351e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121340e-003  
b = 5.94104445e-004  
c = 1.58549613e-005  
d = 1.77085451e-006  
f0 = 2874.426

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	2874.426	-1.5001	0.00002
0.9999	3041.816	0.9999	-0.00002
4.4999	3287.933	4.4999	-0.00002
7.9999	3548.150	7.9999	-0.00001
11.4999	3822.872	11.4999	0.00001
14.9999	4112.492	14.9999	0.00005
18.4999	4417.387	18.4999	-0.00001
21.9999	4737.942	21.9999	-0.00002
25.4999	5074.520	25.4999	-0.00001
28.9999	5427.472	28.9999	-0.00000
32.4999	5797.139	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

