

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0854  
CALIBRATION DATE: 11-Aug-11

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.83436416e-003  
h = 7.17394731e-004  
i = 5.19520475e-005  
j = 6.50142581e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121903e-003  
b = 5.94148459e-004  
c = 1.71259499e-005  
d = 6.50360631e-006  
f0 = 5971.179

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	5971.179	-1.5005	-0.00050
1.0000	6319.054	1.0004	0.00045
4.5000	6830.407	4.5006	0.00056
8.0000	7370.870	8.0001	0.00005
11.5001	7941.203	11.4996	-0.00046
15.0000	8542.050	14.9995	-0.00049
18.5001	9174.018	18.4999	-0.00021
22.0001	9837.547	22.0004	0.00028
25.5001	10533.011	25.5006	0.00047
29.0001	11260.788	29.0004	0.00032
32.5001	12021.154	32.4996	-0.00046

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

