

# 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: 2265  
CALIBRATION DATE: 23-Feb-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.33187868e-003  
h = 6.43922479e-004  
i = 2.36061124e-005  
j = 2.23277124e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121057e-003  
b = 6.01991041e-004  
c = 1.66228620e-005  
d = 2.23436215e-006  
f0 = 2848.148

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2848.148	-1.4999	0.00013
1.0000	3011.763	0.9999	-0.00014
4.5000	3252.159	4.4999	-0.00007
8.0001	3506.088	8.0000	-0.00007
11.5000	3773.912	11.5001	0.00008
15.0000	4055.999	15.0002	0.00022
18.5000	4352.658	18.5000	0.00001
22.0000	4664.264	21.9999	-0.00008
25.5000	4991.135	25.4999	-0.00013
29.0000	5333.591	29.0000	-0.00004
32.5000	5691.925	32.5001	0.00010

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

