

# 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: 4252  
CALIBRATION DATE: 19-Apr-11

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.35803565e-003  
h = 6.45878766e-004  
i = 2.20850380e-005  
j = 1.70720403e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68120990e-003  
b = 6.04137150e-004  
c = 1.65570280e-005  
d = 1.70872064e-006  
f0 = 2958.806

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4998	2958.806	-1.4998	-0.00002
1.0001	3128.170	1.0001	0.00003
4.5002	3376.926	4.5002	-0.00002
8.0001	3639.606	8.0001	0.00003
11.5002	3916.609	11.5002	-0.00001
15.0002	4208.302	15.0002	0.00004
18.5002	4515.030	18.5001	-0.00011
22.0002	4837.191	22.0002	0.00000
25.5002	5175.101	25.5003	0.00006
29.0002	5529.091	29.0002	0.00005
32.5002	5899.481	32.5002	-0.00005

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

