

# Sea-Bird Electronics, Inc.

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

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 3318  
CALIBRATION DATE: 24-Sep-11

SBE21 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.16257925e-003  
h = 6.12979314e-004  
i = 1.80866922e-005  
j = 1.21591889e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.64763475e-003  
b = 5.84687776e-004  
c = 1.49731434e-005  
d = 1.21721591e-006  
f0 = 2364.708

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	2364.708	1.0000	0.00002
4.5000	2558.632	4.5000	-0.00003
15.0000	3209.655	15.0001	0.00009
18.5000	3450.842	18.4998	-0.00018
24.0000	3855.585	24.0002	0.00024
29.0000	4251.596	28.9998	-0.00024
32.5000	4545.292	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

