

# 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: 4511  
CALIBRATION DATE: 02-Feb-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.41147117e-003  
h = 6.45508955e-004  
i = 2.24477883e-005  
j = 1.91620144e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121175e-003  
b = 6.00856065e-004  
c = 1.57236638e-005  
d = 1.91767696e-006  
f0 = 3236.390

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	3236.390	-1.5000	0.00004
1.0000	3422.669	1.0000	-0.00004
4.5000	3696.322	4.5000	-0.00004
8.0000	3985.359	8.0000	-0.00003
11.5000	4290.202	11.5000	0.00005
15.0000	4611.251	15.0001	0.00011
18.5000	4948.880	18.5000	-0.00005
22.0000	5303.507	21.9999	-0.00005
25.5000	5675.494	25.5000	0.00000
29.0000	6065.183	29.0000	-0.00002
32.5000	6472.932	32.5000	0.00003

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

