

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1433  
CALIBRATION DATE: 14-Dec-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.78910130e-003  
h = 6.66997020e-004  
i = 3.12076125e-005  
j = 3.08282349e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121421e-003  
b = 5.85235542e-004  
c = 1.47375427e-005  
d = 3.08434825e-006  
f0 = 5951.472

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	5951.472	-1.5001	-0.00014
1.0000	6303.471	1.0001	0.00010
4.5000	6821.385	4.5002	0.00017
8.0000	7369.378	8.0000	0.00004
11.5000	7948.299	11.4999	-0.00008
15.0000	8558.936	14.9998	-0.00021
18.5000	9202.100	18.4999	-0.00009
22.0000	9878.474	22.0000	0.00003
25.5000	10588.756	25.5002	0.00017
29.0000	11333.582	29.0002	0.00021
32.5000	12113.489	32.4998	-0.00021

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

