

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2224  
CALIBRATION DATE: 26-Jul-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.36257817e-003  
h = 6.43107598e-004  
i = 2.34619555e-005  
j = 2.23364934e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121313e-003  
b = 5.99778881e-004  
c = 1.61253508e-005  
d = 2.23519622e-006  
f0 = 3000.999

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	3000.999	-1.5001	0.00004
1.0000	3174.063	1.0000	-0.00004
4.5000	3428.347	4.5000	-0.00004
8.0000	3696.993	8.0000	0.00001
11.5000	3980.383	11.5000	0.00003
15.0000	4278.895	15.0000	-0.00000
18.5000	4592.907	18.5000	0.00004
22.0000	4922.760	22.0000	0.00001
25.5000	5268.800	25.4999	-0.00006
29.0000	5631.370	29.0000	-0.00004
32.5000	6010.782	32.5000	0.00004

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

