

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 4230  
CALIBRATION DATE: 23-Dec-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.37253214e-003  
h = 6.48435341e-004  
i = 2.28021260e-005  
j = 1.82801119e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121117e-003  
b = 6.04875524e-004  
c = 1.67685800e-005  
d = 1.82956236e-006  
f0 = 3020.125

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4999	3020.125	-1.4999	-0.00002
1.0001	3192.791	1.0001	0.00003
4.5001	3446.371	4.5001	0.00000
8.0001	3714.137	8.0001	-0.00003
11.5001	3996.486	11.5001	0.00002
15.0001	4293.784	15.0001	0.00002
18.5001	4606.404	18.5001	-0.00001
22.0002	4934.714	22.0002	-0.00005
25.5001	5279.044	25.5001	0.00002
29.0001	5639.747	29.0002	0.00005
32.5001	6017.127	32.5001	-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

