

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 0696  
CALIBRATION DATE: 30-Dec-10

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.84767901e-003  
h = 6.90904619e-004  
i = 3.39611288e-005  
j = 3.26474771e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68120941e-003  
b = 5.99775160e-004  
c = 1.61328956e-005  
d = 3.26643822e-006  
f0 = 6190.816

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4999	6190.816	-1.4998	0.00011
1.0001	6547.798	1.0000	-0.00010
4.5001	7072.343	4.5000	-0.00009
8.0001	7626.447	8.0001	-0.00005
11.5001	8210.872	11.5001	0.00003
15.0001	8826.339	15.0002	0.00011
18.5001	9473.534	18.5002	0.00013
22.0001	10153.114	22.0001	0.00005
25.5001	10865.704	25.5000	-0.00015
29.0002	11611.960	28.9999	-0.00028
32.5001	12392.510	32.5003	0.00022

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

