

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1290  
CALIBRATION DATE: 14-Dec-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.74170653e-003  
h = 6.60431282e-004  
i = 2.91943936e-005  
j = 2.85410190e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121391e-003  
b = 5.85653529e-004  
c = 1.45457157e-005  
d = 2.85558238e-006  
f0 = 5550.306

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	5550.306	-1.5001	-0.00012
1.0000	5878.325	1.0001	0.00009
4.5000	6360.918	4.5001	0.00014
8.0000	6871.496	8.0000	0.00004
11.5000	7410.847	11.4999	-0.00007
15.0000	7979.710	14.9998	-0.00018
18.5000	8578.837	18.4999	-0.00008
22.0000	9208.882	22.0000	0.00003
25.5000	9870.495	25.5001	0.00014
29.0000	10564.287	29.0002	0.00018
32.5000	11290.780	32.4998	-0.00018

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

