

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2446  
CALIBRATION DATE: 30-Jun-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.37259088e-003  
h = 6.48545489e-004  
i = 2.39564675e-005  
j = 2.23596204e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121202e-003  
b = 6.03885226e-004  
c = 1.65612138e-005  
d = 2.23755076e-006  
f0 = 3024.107

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	3024.107	-1.5000	0.00002
1.0000	3197.283	1.0000	-0.00003
4.5000	3451.638	4.5000	-0.00001
8.0000	3720.230	8.0000	-0.00002
11.5000	4003.449	11.5000	0.00003
15.0000	4301.658	15.0001	0.00006
18.5000	4615.209	18.5000	-0.00002
22.0000	4944.462	21.9999	-0.00005
25.5000	5289.758	25.5000	0.00001
29.0000	5651.402	29.0000	0.00001
32.5000	6029.709	32.5000	0.00000

$$\text{Temperature ITS-90} = 1/\{g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)]\} - 273.15 \text{ (}^\circ\text{C)}$$

$$\text{Temperature IPTS-68} = 1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15 \text{ (}^\circ\text{C)}$$

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

