

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1366  
CALIBRATION DATE: 13-Mar-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.83488782e-003  
h = 6.77074803e-004  
i = 2.60815898e-005  
j = 2.05565111e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121211e-003  
b = 6.02938430e-004  
c = 1.49320989e-005  
d = 2.05708962e-006  
f0 = 6124.976

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6124.976	-1.5000	0.00002
1.0000	6476.241	1.0000	-0.00001
4.5000	6992.023	4.5000	-0.00002
8.0000	7536.506	8.0000	-0.00003
11.5000	8110.449	11.5000	0.00004
15.0000	8714.546	15.0000	0.00001
18.5000	9349.513	18.5000	0.00000
22.0000	10016.027	22.0000	0.00001
25.5000	10714.720	25.5000	-0.00003
29.0000	11446.235	29.0000	-0.00002
32.5000	12211.162	32.5000	0.00002

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

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

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

Residual = instrument temperature - bath temperature

