

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 4481  
CALIBRATION DATE: 14-Feb-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.33490164e-003  
h = 6.37065247e-004  
i = 2.06999830e-005  
j = 1.69413003e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121200e-003  
b = 5.99055268e-004  
c = 1.53428018e-005  
d = 1.69554271e-006  
f0 = 2884.666

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2884.666	-1.5000	0.00002
1.0000	3051.211	1.0000	-0.00003
4.5000	3295.908	4.5000	-0.00001
8.0000	3554.402	8.0000	-0.00000
11.5000	3827.076	11.5000	0.00004
15.0000	4114.291	15.0000	0.00000
18.5000	4416.413	18.5000	-0.00002
22.0000	4733.796	22.0000	0.00000
25.5000	5066.771	25.5000	-0.00001
29.0000	5415.671	29.0000	0.00001
32.5000	5780.807	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

