

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2633  
CALIBRATION DATE: 07-Feb-13

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.36663661e-003  
h = 6.48271880e-004  
i = 2.40594192e-005  
j = 2.33020964e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121215e-003  
b = 6.04036357e-004  
c = 1.64167094e-005  
d = 2.33180022e-006  
f0 = 2995.922

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2995.922	-1.5000	0.00001
1.0000	3167.437	1.0000	-0.00004
4.5000	3419.343	4.5000	0.00004
8.0000	3685.324	8.0000	0.00001
11.5000	3965.763	11.5000	0.00000
15.0000	4261.015	14.9999	-0.00007
18.5000	4571.451	18.5000	0.00002
22.0000	4897.392	22.0001	0.00008
25.5000	5239.149	25.5000	-0.00005
29.0000	5597.068	29.0000	-0.00001
32.5000	5971.429	32.5000	0.00001

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

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

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

Residual = instrument temperature - bath temperature

