

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2633  
CALIBRATION DATE: 12-Jul-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.36666883e-003  
h = 6.48375721e-004  
i = 2.41563641e-005  
j = 2.35577815e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121257e-003  
b = 6.04019754e-004  
c = 1.64294801e-005  
d = 2.35737305e-006  
f0 = 2995.926

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2995.926	-1.5000	-0.00002
1.0000	3167.452	1.0000	0.00001
4.5000	3419.364	4.5000	0.00005
8.0000	3685.354	8.0000	0.00000
11.5000	3965.798	11.4999	-0.00008
14.9999	4261.067	14.9999	0.00000
18.5000	4571.518	18.5000	0.00003
22.0000	4897.467	22.0000	0.00004
25.5000	5239.243	25.5000	-0.00000
29.0000	5597.162	28.9999	-0.00005
32.5000	5971.536	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

