

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2633  
 CALIBRATION DATE: 11-Mar-14

SBE3 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.36653663e-003  
 h = 6.48073318e-004  
 i = 2.39483709e-005  
 j = 2.31235752e-006  
 f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121267e-003  
 b = 6.04016614e-004  
 c = 1.63643292e-005  
 d = 2.31394161e-006  
 f0 = 2995.958

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2995.958	-1.5000	-0.00003
1.0000	3167.488	1.0000	0.00003
4.5000	3419.396	4.5000	0.00003
8.0000	3685.382	8.0000	-0.00001
11.5000	3965.822	11.4999	-0.00005
15.0000	4261.082	15.0000	-0.00004
18.5000	4571.516	18.5001	0.00006
22.0000	4897.449	22.0001	0.00008
25.5001	5239.204	25.5000	-0.00008
29.0000	5597.103	29.0000	-0.00002
32.5000	5971.452	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

