

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2329  
 CALIBRATION DATE: 28-Nov-12

SBE3 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.34006730e-003  
 h = 6.41499155e-004  
 i = 2.32572216e-005  
 j = 2.24658978e-006  
 f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121229e-003  
 b = 5.99787200e-004  
 c = 1.61142827e-005  
 d = 2.24813723e-006  
 f0 = 2897.592

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2897.592	-1.5000	0.00000
1.0000	3064.689	1.0000	0.00001
4.5000	3310.204	4.5000	-0.00002
8.0000	3569.584	8.0000	0.00000
11.5000	3843.198	11.5000	-0.00000
15.0000	4131.415	15.0000	0.00001
18.5000	4434.589	18.5000	0.00002
22.0000	4753.058	22.0000	0.00000
25.5000	5087.155	25.5000	-0.00002
29.0000	5437.202	29.0000	-0.00001
32.5000	5803.499	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

