

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2329  
 CALIBRATION DATE: 28-Jan-14

SBE3 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.33994620e-003  
 h = 6.41244550e-004  
 i = 2.31013855e-005  
 j = 2.21658622e-006  
 f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121249e-003  
 b = 5.99761796e-004  
 c = 1.60540884e-005  
 d = 2.21812472e-006  
 f0 = 2897.637

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2897.637	-1.5000	-0.00001
1.0000	3064.745	1.0000	0.00002
4.5000	3310.271	4.5000	-0.00001
8.0000	3569.658	8.0000	-0.00000
11.5000	3843.277	11.5000	-0.00002
15.0000	4131.502	15.0000	0.00003
18.5000	4434.674	18.5000	-0.00000
22.0000	4753.144	22.0000	-0.00001
25.5000	5087.244	25.5000	0.00001
29.0000	5437.286	29.0000	0.00000
32.5000	5803.576	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

