

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 1367  
 CALIBRATION DATE: 18-Jul-13

SBE3 TEMPERATURE CALIBRATION DATA  
 ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.86083184e-003  
 h = 6.76420990e-004  
 i = 2.72531341e-005  
 j = 2.19653495e-006  
 f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121322e-003  
 b = 5.97899976e-004  
 c = 1.50054433e-005  
 d = 2.19798737e-006  
 f0 = 6441.287

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6441.287	-1.5001	0.00003
1.0000	6813.915	1.0000	-0.00003
4.5000	7361.395	4.5000	-0.00004
7.9999	7939.741	7.9999	-0.00002
11.4999	8549.810	11.4999	0.00004
14.9999	9192.363	14.9999	0.00002
18.4999	9868.194	18.4999	0.00003
21.9999	10578.035	21.9999	0.00001
25.5000	11322.621	25.4999	-0.00006
29.0000	12102.628	29.0000	-0.00003
32.5000	12918.723	32.5000	0.00004

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

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

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

Residual = instrument temperature - bath temperature

