

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 3213  
CALIBRATION DATE: 12-Feb-12

SBE21 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

**ITS-90 COEFFICIENTS**

g = 4.23558727e-003  
h = 6.30310460e-004  
i = 1.93585652e-005  
j = 1.19972431e-006  
f0 = 1000.0

**IPTS-68 COEFFICIENTS**

a = 3.64763429e-003  
b = 5.96620785e-004  
c = 1.59326489e-005  
d = 1.20111676e-006  
f0 = 2610.082

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	2610.082	1.0001	0.00005
4.5000	2819.684	4.4999	-0.00009
15.0000	3521.316	15.0000	0.00005
18.5000	3780.579	18.5000	0.00002
23.9999	4214.865	23.9999	0.00004
29.0001	4639.079	28.9999	-0.00017
32.5000	4953.199	32.5001	0.00010

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

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

