

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 2900  
CALIBRATION DATE: 29-Jun-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.32907282e-003  
h = 6.43981175e-004  
i = 2.31840128e-005  
j = 2.22572011e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121192e-003  
b = 6.03089168e-004  
c = 1.62597059e-005  
d = 2.22728322e-006  
f0 = 2832.492

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2832.492	-1.5000	0.00003
1.0000	2994.911	1.0000	-0.00002
4.5000	3233.472	4.5000	-0.00002
8.0000	3485.391	7.9999	-0.00007
11.4999	3751.037	11.5000	0.00009
14.9999	4030.743	15.0000	0.00007
18.5000	4324.851	18.5000	-0.00003
22.0000	4633.685	22.0000	-0.00004
25.5000	4957.560	25.5000	-0.00001
29.0000	5296.771	29.0000	-0.00001
32.5000	5651.612	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

