

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 2548  
CALIBRATION DATE: 31-Jul-09

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

### ITS-90 COEFFICIENTS

g = 4.27158951e-003  
h = 6.19149401e-004  
i = 1.99357977e-005  
j = 1.60473802e-006  
f0 = 1000.0

### IPTS-68 COEFFICIENTS

a = 3.68121327e-003  
b = 5.84775574e-004  
c = 1.52335861e-005  
d = 1.60610089e-006  
f0 = 2670.162

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	2670.162	-1.5001	0.00003
0.9999	2828.205	0.9999	-0.00005
4.4999	3060.829	4.4999	-0.00000
7.9999	3307.072	7.9999	0.00000
11.4998	3567.340	11.4998	0.00004
14.9999	3842.047	14.9999	-0.00002
18.4999	4131.576	18.4999	0.00000
21.9999	4436.308	21.9999	-0.00003
25.4999	4756.628	25.4999	0.00001
28.9999	5092.888	28.9999	0.00000
32.4999	5445.447	32.4999	0.00000

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

