

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 4148  
CALIBRATION DATE: 29-Jun-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.37337305e-003  
h = 6.61329295e-004  
i = 2.44304506e-005  
j = 2.07153733e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121157e-003  
b = 6.15738159e-004  
c = 1.77091782e-005  
d = 2.07321996e-006  
f0 = 2962.991

| BATH TEMP<br>(ITS-90) | INSTRUMENT FREQ<br>(Hz) | INST TEMP<br>(ITS-90) | RESIDUAL<br>(ITS-90) |
|-----------------------|-------------------------|-----------------------|----------------------|
| -1.5000               | 2962.991                | -1.4999               | 0.00006              |
| 1.0000                | 3129.314                | 0.9999                | -0.00006             |
| 4.5000                | 3373.329                | 4.5000                | -0.00003             |
| 8.0000                | 3630.669                | 7.9999                | -0.00006             |
| 11.4999               | 3901.689                | 11.5000               | 0.00010              |
| 14.9999               | 4186.716                | 15.0000               | 0.00012              |
| 18.5000               | 4486.069                | 18.4999               | -0.00007             |
| 22.0000               | 4800.074                | 21.9999               | -0.00013             |
| 25.5000               | 5129.053                | 25.5000               | 0.00003              |
| 29.0000               | 5473.267                | 29.0000               | 0.00005              |
| 32.5000               | 5833.000                | 32.5000               | -0.00001             |

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

