

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1075  
CALIBRATION DATE: 01-Feb-07

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPRATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86409128e-003  
h = 6.81504504e-004  
i = 2.63070262e-005  
j = 1.92458724e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121258e-003  
b = 6.04078310e-004  
c = 1.56536531e-005  
d = 1.92606550e-006  
f0 = 6359.296

| BATH TEMP<br>(ITS-90) | INSTRUMENT FREQ<br>(Hz) | INST TEMP<br>(ITS-90) | RESIDUAL<br>(ITS-90) |
|-----------------------|-------------------------|-----------------------|----------------------|
| -1.5000               | 6359.296                | -1.5000               | -0.00002             |
| 1.0000                | 6723.326                | 1.0000                | 0.00003              |
| 4.5000                | 7257.854                | 4.5000                | 0.00001              |
| 8.0000                | 7822.161                | 8.0000                | -0.00002             |
| 11.5000               | 8417.044                | 11.5000               | -0.00002             |
| 15.0000               | 9043.276                | 15.0000               | 0.00004              |
| 18.5000               | 9701.573                | 18.5000               | -0.00001             |
| 22.0000               | 10392.681               | 22.0000               | -0.00001             |
| 25.5000               | 11117.293               | 25.5000               | 0.00000              |
| 29.0000               | 11876.075               | 29.0000               | 0.00002              |
| 32.5000               | 12669.659               | 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 ITS-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

