

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 4569  
CALIBRATION DATE: 27-Mar-13

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.35548162e-003  
h = 6.36177455e-004  
i = 2.07102801e-005  
j = 1.74121486e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121186e-003  
b = 5.97219729e-004  
c = 1.50155077e-005  
d = 1.74260545e-006  
f0 = 2990.216

| BATH TEMP<br>(ITS-90) | INSTRUMENT FREQ<br>(Hz) | INST TEMP<br>(ITS-90) | RESIDUAL<br>(ITS-90) |
|-----------------------|-------------------------|-----------------------|----------------------|
| -1.5000               | 2990.216                | -1.5000               | 0.00003              |
| 1.0000                | 3163.396                | 1.0000                | -0.00003             |
| 4.5000                | 3417.877                | 4.5000                | -0.00004             |
| 8.0000                | 3686.754                | 8.0000                | -0.00001             |
| 11.5000               | 3970.420                | 11.5000               | 0.00004              |
| 15.0000               | 4269.260                | 15.0001               | 0.00009              |
| 18.5000               | 4583.632                | 18.5000               | -0.00004             |
| 22.0000               | 4913.924                | 21.9999               | -0.00007             |
| 25.5000               | 5260.488                | 25.5000               | -0.00001             |
| 29.0000               | 5623.656                | 29.0000               | 0.00005              |
| 32.5000               | 6003.743                | 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

