# SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA

Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com


SENSOR SERIAL NUMBER: 1609
CALIBRATION DATE: 21-May-09

SBE3 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.86679052e-003
h = 6.81049884e-004
i = 2.67103305e-005
j = 2.09886517e-006
f0 = 1000.0

IPTS-68 COEFFICIENTS

a = 3.68121161e-003
b = 6.03730411e-004
c = 1.50497546e-005
d = 2.10032213e-006
f0 = 6399.644

| BATH TEMP (ITS-90) | INSTRUMENT FREQ (Hz) | INST TEMP (ITS-90) | RESIDUAL (ITS-90) |
|---|---|---|---|
| -1.5001 | 6399.644 | -1.4999 | 0.00015 |
| 0.9999 | 6766.131 | 0.9998 | -0.00012 |
| 4.4999 | 7304.271 | 4.4997 | -0.00019 |
| 7.9999 | 7872.339 | 7.9998 | -0.00008 |
| 11.4999 | 8471.106 | 11.5001 | 0.00016 |
| 14.9999 | 9101.319 | 15.0004 | 0.00050 |
| 18.4999 | 9763.465 | 18.4996 | -0.00030 |
| 21.9999 | 10458.627 | 21.9997 | -0.00019 |
| 25.4999 | 11187.317 | 25.4999 | -0.00004 |
| 28.9999 | 11950.158 | 29.0000 | 0.00006 |
| 32.4999 | 12747.744 | 32.4999 | 0.00004 |

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