SBE SEA-BIRD ELECTRONICS, INC TELEPHONE 206 643-9866 FAX 206 643-9954
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Temperature Calibration Report

Customer: EMS

SBE Job Number: 20006R Date of report: 06 January 1999

SBE Model Number: 3 Serial Number: 031524

Unless instructed otherwise and if received intact (not broken) and functional, temperature sensors are calibrated 'as received', i.e, without repairs or adjustments that would prevent determination of the sensor's drift history. If calibration uncovers problems with the sensor, a second calibration will be required after the necessary work is finished.

An 'as received' calibration certificate listing the coefficients used to convert sensor frequency to temperature will be provided. Users may judge whether the 'as received' or previously determined coefficients are more likely to represent the condition of the sensor at the time of deployment (those using SEASOFT should enter the chosen coefficients using SEACON). Calibration coefficients obtained after a repair should only be used with data collected subsequent to the calibration.

'AS RECEIVED CALIBRATION' (x) Performed ( ) Not Performed

Date: 06 Jan 99 Drift since last cal: .00027 °Celsius/year

Comments:

'POST REPAIR CALIBRATION' ( ) Performed (x) Not Performed

Date: _____ Drift since last cal: _____ °Celsius/year

Comments:

SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER = 1524
CALIBRATION DATE: 06-Jan-99s

TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.83482411e-03
h = 6.75392734e-04
i = 2.64046579e-05
j = 2.12695952e-06
f_0 = 1000.000

IPTS-68 COEFFICIENTS

a = 3.68151424e-03
b = 6.00623608e-04
c = 1.48319736e-05
d = 2.12839340e-06
f_0 = 6158.924

BATH TEMP (ITS-90 °C)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90 °C)	RESIDUAL (ITS-90 °C)
-1.5223	6158.924	-1.5223	-0.00002
1.0395	6522.550	1.0395	0.00002
4.6131	7055.252	4.6131	0.00004
8.1198	7607.555	8.1198	0.00001
11.6236	8189.416	11.6236	-0.00004
15.1840	8812.175	15.1839	-0.00007
18.6475	9449.193	18.6475	0.00005
22.1490	10125.128	22.1490	0.00005
25.6768	10839.295	25.6768	0.00000
29.1481	11575.130	29.1481	-0.00004
32.6228	12345.175	32.6228	0.00001

Temperature ITS-90 $= 1/\{g + h[\ell n(f_0/f)] + i[\ell n^2(f_0/f)] + j[\ell n^3(f_0/f)]\} - 273.15$ (°C)

Temperature IPTS-68 $= 1/\{a + b[\ell n(f_0/f)] + c[\ell n^2(f_0/f)] + d[\ell n^3(f_0/f)]\} - 273.15$ (°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