

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 4105  
CALIBRATION DATE: 22-Feb-05

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.39435592e-003  
h = 6.48105239e-004  
i = 2.33856256e-005  
j = 2.11001719e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121062e-003  
b = 6.03074348e-004  
c = 1.61804689e-005  
d = 2.11155703e-006  
f0 = 3134.952

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4998	3134.952	-1.4999	-0.00007
1.0002	3314.734	1.0003	0.00010
4.5002	3578.767	4.5002	0.00004
8.0002	3857.587	8.0002	-0.00001
11.5002	4151.587	11.5001	-0.00008
15.0002	4461.167	15.0002	-0.00003
18.5002	4786.687	18.5002	-0.00000
22.0002	5128.515	22.0003	0.00006
25.5002	5486.987	25.5002	0.00002
29.0002	5862.449	29.0002	0.00000
32.5002	6255.221	32.5002	-0.00002

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

