

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0436  
CALIBRATION DATE: 18-Mar-11

SBE19 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.20232980e-003  
h = 6.15359823e-004  
i = 1.04139326e-005  
j = -4.91577078e-007  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.64763183e-003  
b = 5.95180316e-004  
c = 1.17911776e-005  
d = -4.90730946e-007  
f0 = 2499.865

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	2499.865	1.0002	0.00024
4.5001	2700.987	4.4997	-0.00045
15.0000	3373.243	15.0005	0.00052
18.5000	3621.234	18.5000	-0.00001
24.0000	4036.310	23.9994	-0.00056
29.0001	4441.523	29.0004	0.00028
32.5000	4741.290	32.5000	-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 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

Date, Offset(mdeg C)

