

# Sea-Bird Electronics, Inc.

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

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 0538  
CALIBRATION DATE: 13-Jan-12

SBE16 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.18647663e-003  
h = 5.91895424e-004  
i = 2.03132357e-006  
j = -2.22279042e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.64763595e-003  
b = 5.82715642e-004  
c = 8.16467951e-006  
d = -2.22248461e-006  
f0 = 2499.591

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	2499.591	0.9999	-0.00007
4.5000	2705.126	4.5001	0.00013
14.9999	3393.105	14.9998	-0.00007
18.5000	3647.433	18.5000	-0.00004
24.0000	4073.637	24.0000	-0.00004
29.0000	4490.287	29.0002	0.00023
32.5000	4798.988	32.4999	-0.00014

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

