

# 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: 0539  
CALIBRATION DATE: 12-Feb-14

SBE16 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.16917446e-003  
h = 5.92897655e-004  
i = 3.14479477e-006  
j = -1.89071790e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.64763909e-003  
b = 5.83011100e-004  
c = 8.19470085e-006  
d = -1.89036458e-006  
f0 = 2425.444

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
0.9998	2425.444	0.9997	-0.00011
4.5000	2624.795	4.5002	0.00020
15.0000	3291.918	14.9998	-0.00017
18.5000	3538.491	18.5000	0.00002
24.0000	3951.608	24.0000	-0.00004
29.0001	4355.374	29.0004	0.00026
32.5000	4654.433	32.4998	-0.00016

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

