

# 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: 2327  
CALIBRATION DATE: 28-Nov-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.35195218e-003  
h = 6.42958609e-004  
i = 2.33539676e-005  
j = 2.27013304e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121207e-003  
b = 6.00564471e-004  
c = 1.60178603e-005  
d = 2.27167806e-006  
f0 = 2948.262

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2948.262	-1.5000	0.00002
1.0000	3118.050	1.0000	-0.00001
4.5000	3367.493	4.5000	-0.00003
8.0000	3630.987	8.0000	0.00002
11.5000	3908.899	11.5000	0.00000
15.0000	4201.601	15.0000	-0.00000
18.5000	4509.450	18.5000	0.00002
22.0000	4832.786	22.0000	0.00003
25.5000	5171.931	25.5000	-0.00005
29.0000	5527.220	29.0000	-0.00003
32.5000	5898.954	32.5000	0.00003

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

