

# 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: 4828  
CALIBRATION DATE: 21-Sep-11

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.39624351e-003  
h = 6.40509425e-004  
i = 2.15590299e-005  
j = 1.83040336e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121130e-003  
b = 5.98118089e-004  
c = 1.52328088e-005  
d = 1.83182362e-006  
f0 = 3180.339

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.4999	3180.339	-1.4999	-0.00002
1.0000	3364.251	1.0000	0.00004
4.5001	3634.485	4.5001	-0.00002
8.0001	3919.982	8.0001	0.00001
11.5001	4221.155	11.5001	-0.00000
15.0001	4538.418	15.0001	0.00003
18.5001	4872.152	18.5000	-0.00005
22.0001	5222.759	22.0001	-0.00004
25.5001	5590.613	25.5002	0.00007
29.0001	5976.043	29.0001	0.00003
32.5001	6379.408	32.5001	-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

