

# 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: 1367  
CALIBRATION DATE: 13-Mar-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.86047916e-003  
h = 6.75900328e-004  
i = 2.70050316e-005  
j = 2.15752417e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121231e-003  
b = 5.97897066e-004  
c = 1.49752333e-005  
d = 2.15896930e-006  
f0 = 6441.388

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	6441.388	-1.5000	0.00000
1.0000	6814.017	1.0000	0.00001
4.5000	7361.504	4.5000	-0.00000
8.0000	7939.864	8.0000	-0.00002
11.5000	8549.935	11.5000	0.00002
15.0000	9192.493	15.0000	0.00000
18.5000	9868.327	18.5000	0.00000
22.0000	10578.183	22.0000	0.00001
25.5000	11322.768	25.5000	-0.00003
29.0000	12102.802	29.0000	0.00002
32.5000	12918.907	32.5000	-0.00000

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

