

# Sea-Bird GmbH

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SENSOR SERIAL NUMBER: 5122  
CALIBRATION DATE: 28-Mar-13

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.39916972e-003  
h = 6.44116486e-004  
i = 2.26424647e-005  
j = 2.08639296e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121259e-003  
b = 6.00256633e-004  
c = 1.54299462e-005  
d = 2.08786694e-006  
f0 = 3179.308

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	3179.308	-1.5000	-0.00002
1.0000	3362.495	1.0000	0.00004
4.5000	3631.585	4.5000	-0.00003
8.0000	3915.805	8.0000	0.00002
11.5000	4215.544	11.5000	-0.00001
15.0000	4531.211	15.0001	0.00007
18.5000	4863.156	18.4999	-0.00008
22.0000	5211.784	21.9999	-0.00006
25.5000	5577.448	25.5001	0.00008
29.0000	5960.455	29.0000	0.00004
32.5000	6361.146	32.5000	-0.00004

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

