

# Sea-Bird GmbH

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SENSOR SERIAL NUMBER: 5147  
CALIBRATION DATE: 29-Mar-13

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.40635485e-003  
h = 6.44932803e-004  
i = 2.36003847e-005  
j = 2.29996956e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121249e-003  
b = 5.99340106e-004  
c = 1.55639146e-005  
d = 2.30148128e-006  
f0 = 3217.687

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	3217.687	-1.5000	-0.00001
1.0000	3403.378	1.0000	0.00002
4.5000	3676.189	4.5000	-0.00001
8.0000	3964.375	8.0000	0.00001
11.5000	4268.339	11.5000	-0.00002
15.0000	4588.492	15.0000	0.00004
18.5000	4925.196	18.5000	-0.00004
22.0000	5278.846	22.0000	-0.00002
25.5000	5649.792	25.5000	0.00002
29.0000	6038.371	29.0000	0.00003
32.5000	6444.907	32.5000	-0.00002

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

