

# Sea-Bird Electronics, Inc.

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SENSOR SERIAL NUMBER: 0042  
CALIBRATION DATE: 13-Apr-13

SBE 49 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

a0 = 6.823609e-004  
a1 = 3.284375e-004  
a2 = -6.713683e-006  
a3 = 3.659896e-007

BATH TEMP (ITS-90)	INSTRUMENT OUTPUT(n)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	698765.492	1.0000	-0.0000
4.5000	617613.542	4.5000	0.0000
15.0000	412647.085	15.0001	0.0001
18.5000	356663.712	18.4999	-0.0001
24.0000	279936.034	23.9999	-0.0001
29.0000	220927.051	29.0002	0.0002
32.5000	185016.068	32.4999	-0.0001

$$MV = (n - 524288) / 1.6e+007$$

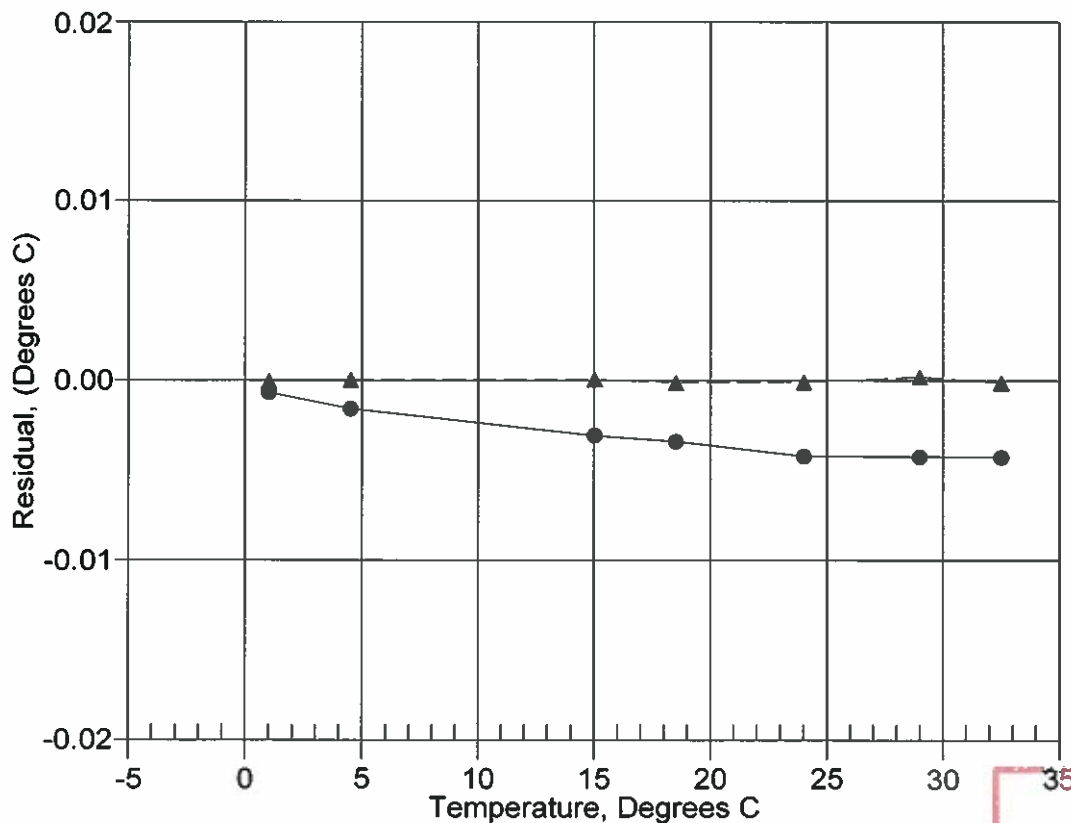
$$R = (MV * 2.295e+010 + 9.216e+008) / (6.144e+004 - MV * 5.3e+005)$$

$$\text{Temperature ITS-90} = 1 / \{a_0 + a_1[\ln(R)] + a_2[\ln^2(R)] + a_3[\ln^3(R)]\} - 273.15 \text{ (}^\circ\text{C)}$$

$$\text{Residual} = \text{instrument temperature} - \text{bath temperature}$$

Date, Delta T (mdeg C)

● 07-Dec-07 -3.05  
▲ 13-Apr-13 -0.00



**POST CRUISE  
CALIBRATION**