



# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th St. Bellevue, Washington 98005 USA

Phone: (425) 643-9866 Fax: (425) 643-9954 www.seabird.com

**Service**

**Report**

**RMA Number**

70506

## Customer Information:

**Company** Atlantic Marine Center

**Date** 10/8/2012

**Contact** Richard Conway

**PO Number** TBD

**Serial Number** 03P5026

**Model Number** SBE 03P

## Services Requested:

1. Evaluate/Repair Instrumentation.
2. Perform Routine Calibration Service.

## Problems Found:

## Services Performed:

1. Performed initial diagnostic evaluation.
2. Performed "Post Cruise" calibration of the temperature sensor.

## Special Notes:

# 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: 5026  
CALIBRATION DATE: 29-Aug-12

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.33087200e-003  
h = 6.33746177e-004  
i = 2.09517303e-005  
j = 1.85488956e-006  
f0 = 1000.0

## IPTS-68 COEFFICIENTS

a = 3.68121220e-003  
b = 5.95764624e-004  
c = 1.50872353e-005  
d = 1.85629760e-006  
f0 = 2882.622

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5000	2882.622	-1.5000	0.00001
1.0000	3049.996	1.0000	-0.00000
4.5000	3295.987	4.5000	-0.00002
8.0000	3555.947	8.0000	-0.00003
11.5000	3830.269	11.5001	0.00006
15.0000	4119.312	15.0000	0.00004
18.5000	4423.443	18.4999	-0.00006
22.0000	4743.034	22.0000	-0.00002
25.5000	5078.417	25.5000	0.00001
29.0000	5429.920	29.0000	0.00002
32.5000	5797.858	32.5000	-0.00001

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)

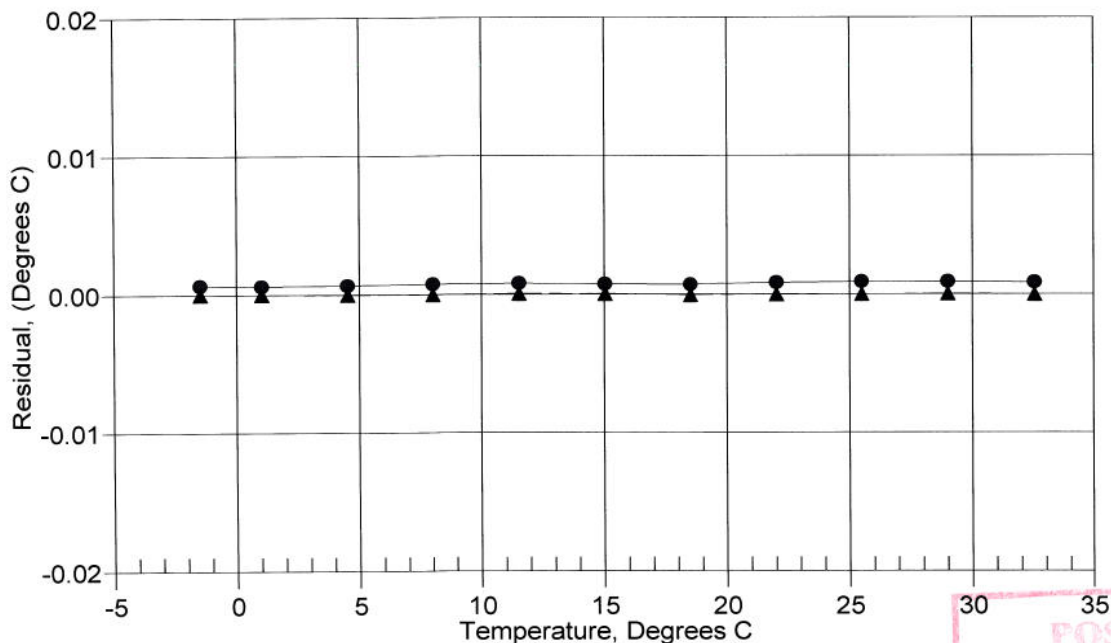
Temperature IPTS-68 =  $1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature

Date, Offset(mdeg C)

● 07-Oct-10 0.76  
▲ 29-Aug-12 0.00



POST CRUISE  
CALIBRATION



# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th St. Bellevue, Washington 98005 USA

Phone: (425) 643-9866 Fax: (425) 643-9954 www.seabird.com

## Temperature Calibration Report

Customer:	Atlantic Marine Center		
Job Number:	70506	Date of Report:	8/29/2012
Model Number	SBE 03P	Serial Number:	03P5026

*Temperature sensors are normally calibrated 'as received', without adjustments, allowing a determination sensor drift. If the calibration identifies a problem, then a second calibration is performed after work is completed. The 'as received' calibration is not performed if the sensor is damaged or non-functional, or by customer request.*

*An 'as received' calibration certificate is provided, listing coefficients to convert sensor frequency to temperature. Users must choose whether the 'as received' calibration or the previous calibration better represents the sensor condition during deployment. In SEASOFT enter the chosen coefficients. The coefficient 'offset' allows a small correction for drift between calibrations (consult the SEASOFT manual). Calibration coefficients obtained after a repair apply only to subsequent data.*

### 'AS RECEIVED CALIBRATION'

☒ Performed ☐ Not Performed

Date: 8/29/2012

Drift since last cal: -0.00040 Degrees Celsius/year

Comments:

### 'CALIBRATION AFTER REPAIR'

☐ Performed ☒ Not Performed

Date:

Drift since Last cal: Degrees Celsius/year

Comments: