



Sea-Bird Scientific
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 USA

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 seabird@seabird.com
 www.seabird.com

SENSOR SERIAL NUMBER: 0026
 CALIBRATION DATE: 25-Oct-18

Glider Payload CTD CONDUCTIVITY CALIBRATION DATA
 PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -9.940420e-001 CPcor = -9.5700e-008
 h = 1.619515e-001 CTcor = 3.2500e-006
 i = -4.104616e-004 WBOTC = 8.3917e-007
 j = 5.785648e-005

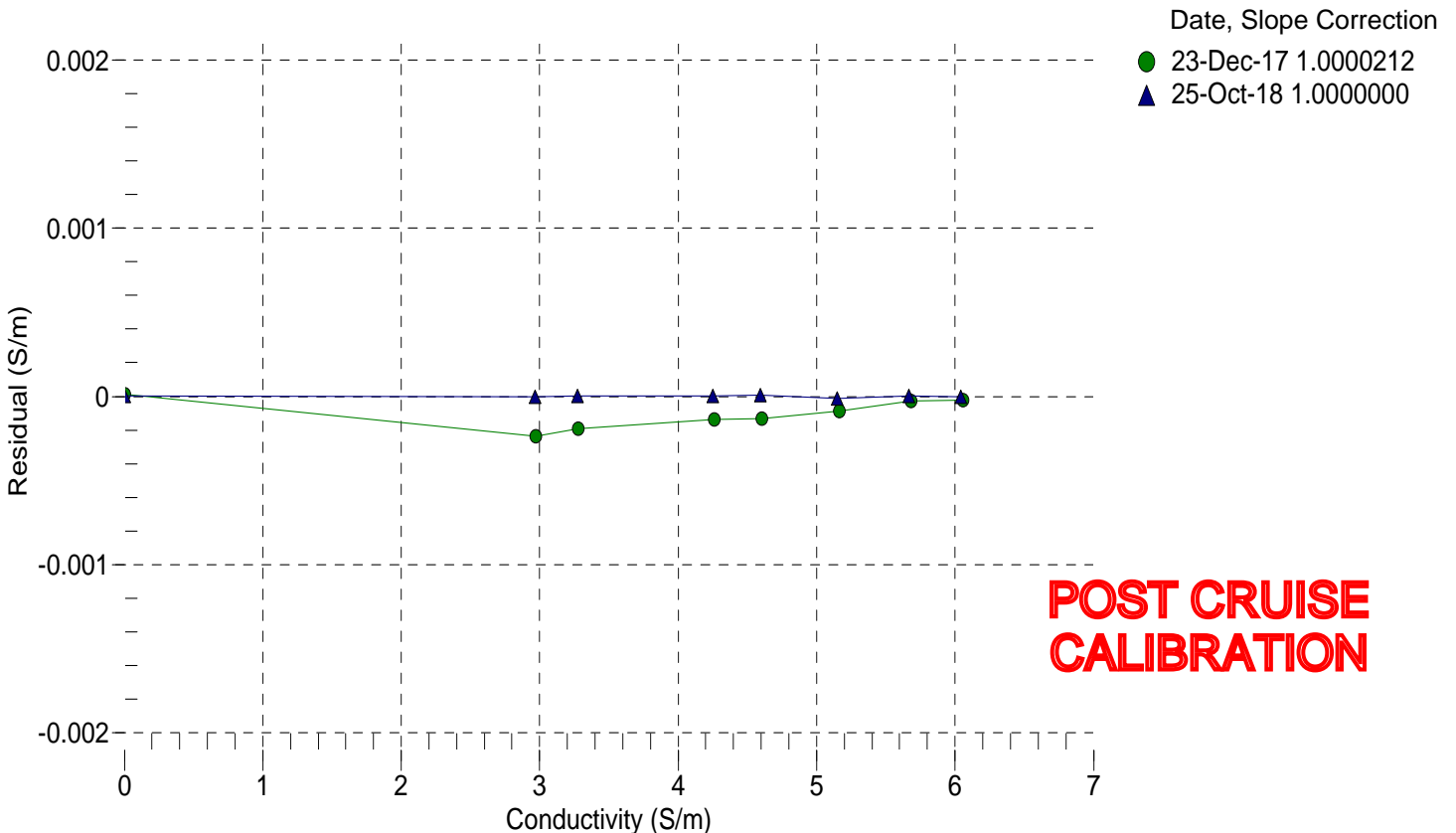
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2482.54	0.00000	0.00000
1.0000	34.6685	2.96453	4953.38	2.96453	-0.00000
4.4999	34.6489	3.27047	5140.73	3.27048	0.00000
14.9999	34.6073	4.24867	5697.83	4.24867	0.00000
18.5000	34.5985	4.59258	5880.91	4.59259	0.00001
24.0000	34.5891	5.14855	6165.07	5.14854	-0.00001
29.0000	34.5835	5.66846	6419.11	5.66847	0.00000
32.5000	34.5795	6.03935	6594.16	6.03935	-0.00000

$f = \text{Instrument Output(Hz)} * \text{sqrt}(1.0 + \text{WBOTC} * t) / 1000.0$

t = temperature (°C); p = pressure (decibars); $\delta = \text{CTcor}$; $\epsilon = \text{CPcor}$;

$\text{Conductivity (S/m)} = (g + h * f^2 + i * f^3 + j * f^4) / (1 + \delta * t + \epsilon * p)$

Residual (Siemens/meter) = instrument conductivity - bath conductivity





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SENSOR SERIAL NUMBER: 0026
 CALIBRATION DATE: 22-Oct-18

Glider Payload CTD PRESSURE CALIBRATION DATA
 2900 psia S/N 2085959

COEFFICIENTS:

PA0 =	-1.549045e+000	PTCA0 =	5.235622e+005
PA1 =	9.810848e-003	PTCA1 =	-1.297501e+001
PA2 =	7.342412e-011	PTCA2 =	2.480013e-001
PTEMPA0 =	-9.768791e+001	PTCB0 =	1.047710e+002
PTEMPA1 =	4.022761e-002	PTCB1 =	-5.062501e-003
PTEMPA2 =	1.191236e-006	PTCB2 =	0.000000e+000

PRESSURE SPAN CALIBRATION

THERMAL CORRECTION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (volts)	COMPUTED PRESSURE (PSIA)	RESIDUAL (%FSR)	TEMP (°C)	THERMISTOR OUTPUT (volts)	INSTRUMENT OUTPUT (counts)
14.60	525047.5	2762.7	14.67	0.00	32.50	2974	525155.90
592.51	583830.5	2765.0	592.29	-0.01	29.00	2900	525145.10
1169.72	642532.9	2766.4	1169.62	-0.00	24.00	2794	525144.40
1747.08	701207.0	2768.1	1747.18	0.00	18.50	2676	525159.60
2324.29	759794.4	2769.5	2324.40	0.00	15.00	2601	525176.30
2901.47	818295.4	2770.9	2901.28	-0.01	4.50	2373	525261.10
2324.20	759783.1	2770.9	2324.30	0.00	1.00	2297	525301.00
1747.00	701202.9	2771.4	1747.16	0.01			
1169.63	642528.7	2771.9	1169.60	-0.00	TEMPERATURE (°C)	SPAN	
592.50	583831.6	2773.0	592.32	-0.01	-5.75	104.80	
14.59	525056.0	2777.9	14.77	0.01	37.53	104.58	

y = thermistor output (counts)

$$t = PTEMPA0 + PTEMPA1 * y + PTEMPA2 * y^2$$

$$x = \text{instrument output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$$

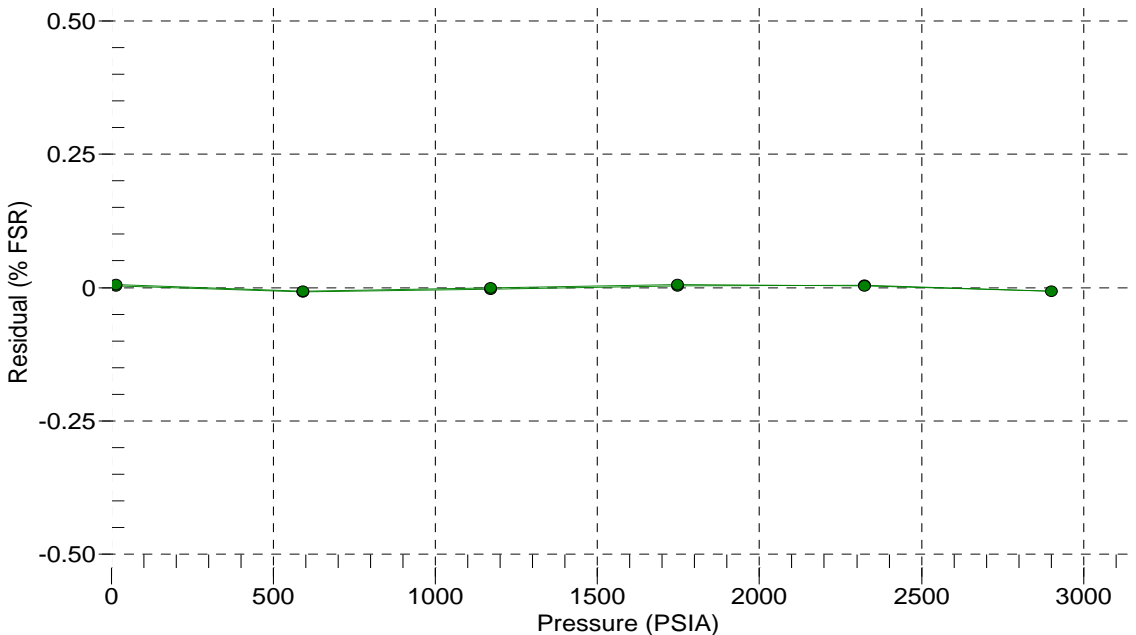
$$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$$

$$\text{pressure (PSIA)} = PA0 + PA1 * n + PA2 * n^2$$

$$\text{Residual (\%FSR)} = (\text{computed pressure} - \text{true pressure}) * 100 / \text{Full Scale Range}$$

Date, Offset (%FSR)

● 22-Oct-18 0.00





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 CALIBRATION DATE: 25-Oct-18

Glider Payload CTD TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

a0 = -6.895849e-005
 a1 = 2.970433e-004
 a2 = -3.658231e-006
 a3 = 1.791494e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	580317.0	1.0001	0.0001
4.4999	496320.7	4.4998	-0.0001
14.9999	316657.7	15.0000	0.0001
18.5000	274314.8	18.5001	0.0001
24.0000	220238.4	23.9999	-0.0001
29.0000	181493.0	28.9999	-0.0001
32.5000	159032.2	32.5001	0.0001

n = Instrument Output (counts)

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

Residual (°C) = instrument temperature - bath temperature

