



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-10110
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2727.24
Communications Format: RS232
Communications Settings: 9600 baud, 8 Data Bits, No Parity

Installed Devices/Sensors

<i>Data Format</i>	<i>Measurement</i>	<i>Sensor Type</i>	<i>Serial Number</i>	<i>Rating</i>
Count	Temperature	Internal	N/A	N/A
Frequency	Conductivity	Internal	N/A	N/A
Count	Pressure	Druck	10726449	2000m(2000 dBar)



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 www.seabird.com

SENSOR SERIAL NUMBER: 10110
 CALIBRATION DATE: 22-Sep-17

SBE 41 TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

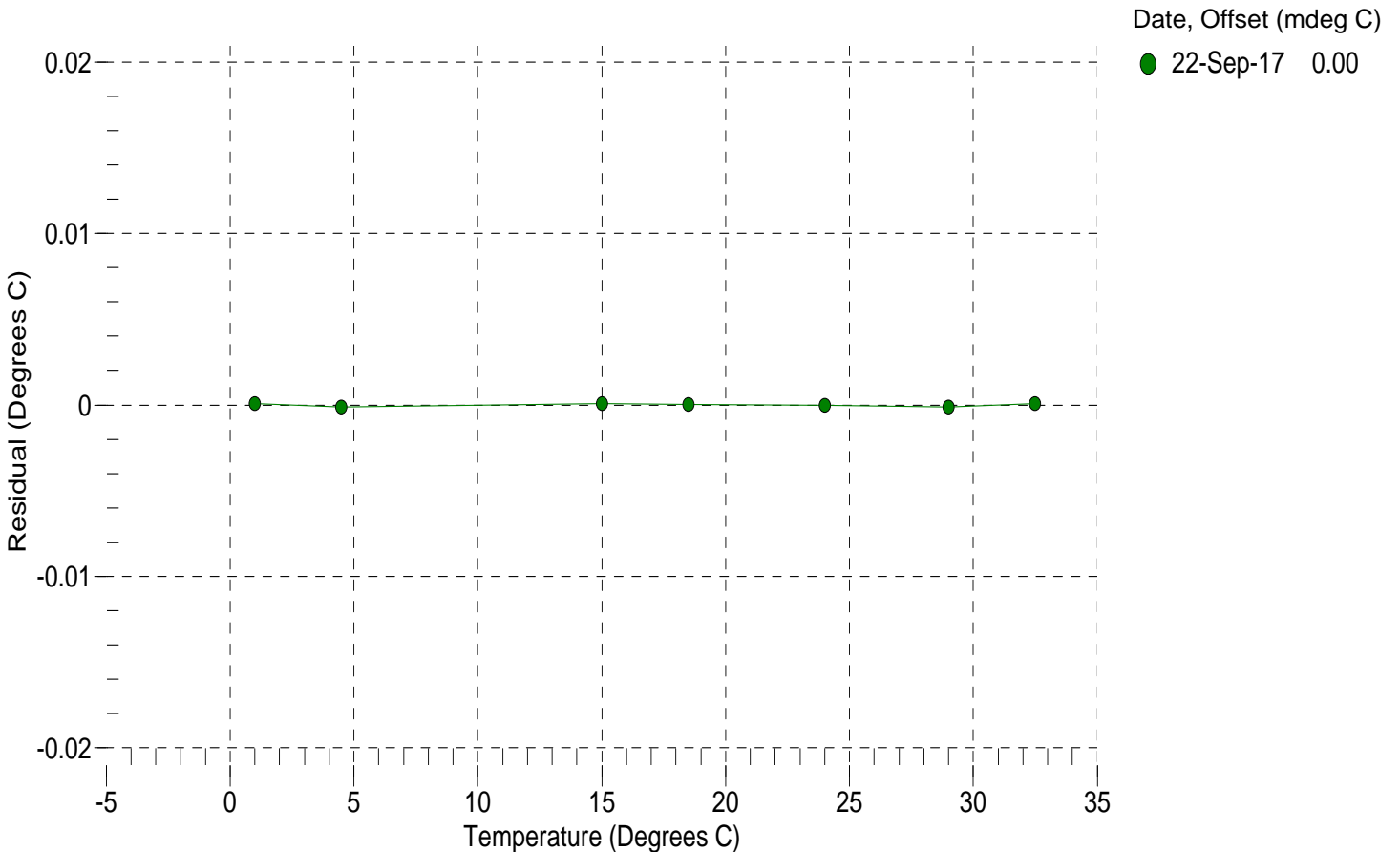
a0 = -8.654732e-004
 a1 = 2.980572e-004
 a2 = -4.002038e-006
 a3 = 1.577090e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
0.9999	13516713.9	1.0000	0.0001
4.5000	11557315.7	4.4999	-0.0001
15.0000	7366268.3	15.0001	0.0001
18.5000	6378603.3	18.5000	0.0000
23.9940	5118546.5	23.9940	-0.0000
29.0000	4213876.0	28.9999	-0.0001
32.5000	3690238.2	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





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SBE 41 CONDUCTIVITY CALIBRATION DATA
 PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -9.962813e-001 CPcor = -9.5700e-008
 h = 1.345521e-001 CTcor = 3.2500e-006
 i = -3.367841e-004 WBOTC = -3.3607e-007
 j = 4.237870e-005

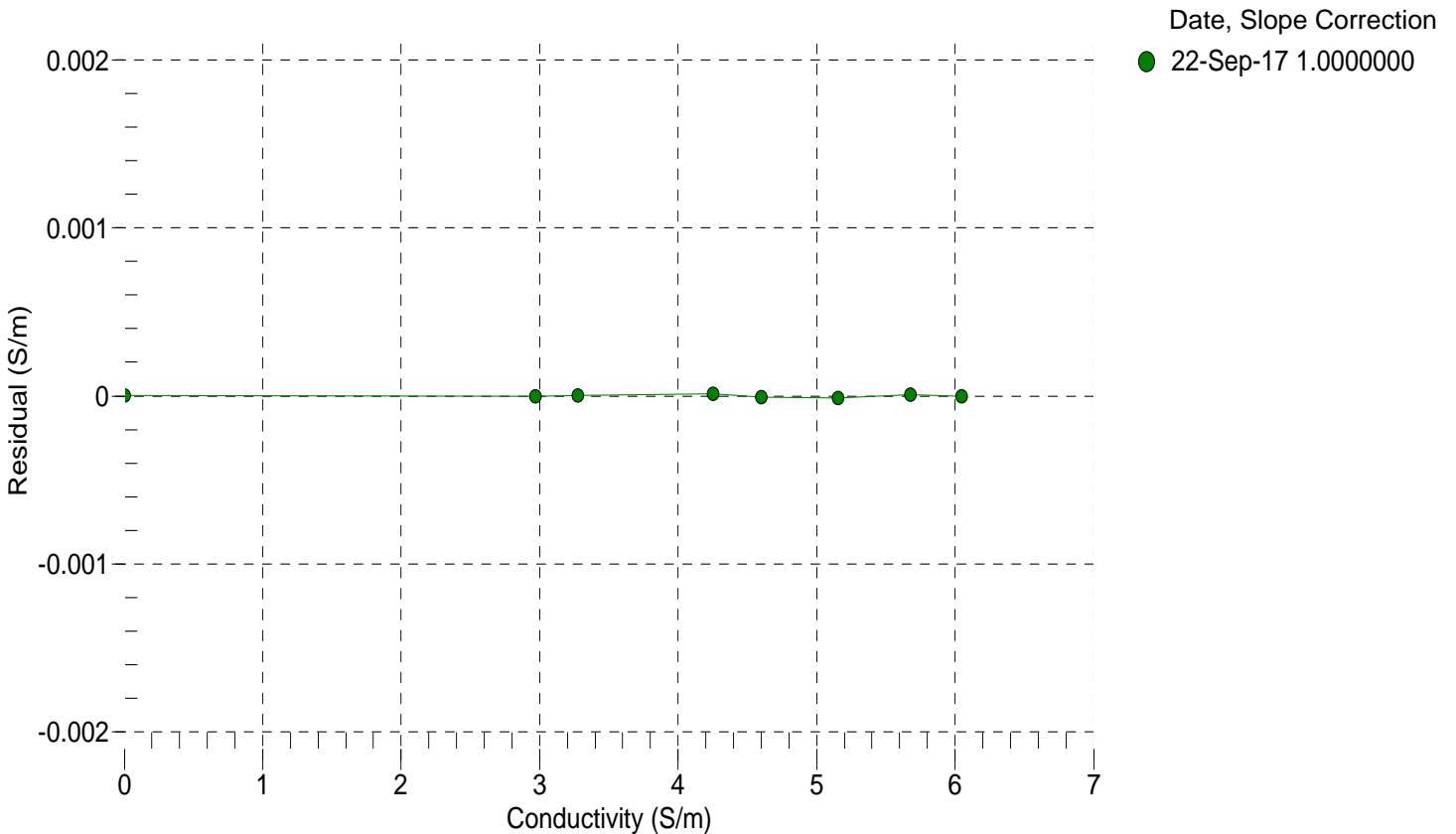
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2727.24	0.00000	0.00000
0.9999	34.7243	2.96884	5440.24	2.96884	-0.00000
4.5000	34.7044	3.27521	5645.96	3.27521	0.00000
15.0000	34.6618	4.25466	6257.60	4.25467	0.00001
18.5000	34.6529	4.59903	6458.58	4.59902	-0.00001
23.9940	34.6429	5.15506	6770.19	5.15505	-0.00001
29.0000	34.6369	5.67623	7049.41	5.67624	0.00001
32.5000	34.6339	6.04777	7241.65	6.04777	-0.00000

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

t = temperature (°C); p = pressure (decibars); δ = CTcor; ϵ = 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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 CALIBRATION DATE: 18-Sep-17

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 10726449

COEFFICIENTS:

PA0 =	2.685684e-001	PTCA0 =	-6.175369e+003
PA1 =	3.938548e-004	PTCA1 =	3.756305e+001
PA2 =	-2.722205e-013	PTCA2 =	-2.643394e-001
PTHA0 =	3.350361e+002	PTCB0 =	3.114347e+005
PTHA1 =	-6.232012e-005	PTCB1 =	4.075934e+001
PTHA2 =	-1.555638e-012	PTCB2 =	-4.387936e-001

PRESSURE SPAN CALIBRATION

THERMAL CORRECTION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (counts)	COMPUTED PRESSURE (PSIA)	RESIDUAL (%FSR)	TEMP (°C)	THERMISTOR OUTPUT (counts)	INSTRUMENT OUTPUT (counts)
14.49	30745.3	4521971.6	14.51	0.00	32.50	4376460.20	32833.70
591.33	1500163.2	4518548.8	591.37	0.00	29.00	4422467.40	32832.27
1168.23	2972661.0	4516964.2	1168.27	0.00	23.99	4488191.00	32725.63
1745.14	4448189.6	4515771.6	1745.16	0.00	18.50	4560124.20	32524.87
2322.13	5927219.4	4514726.2	2322.23	0.00	15.00	4605867.00	32382.12
2899.18	7408781.5	4513750.6	2899.10	-0.00	4.50	4742350.40	32125.30
2322.15	5927155.3	4513755.2	2322.19	0.00	1.00	4787848.20	31958.01
1745.25	4448370.5	4513701.0	1745.21	-0.00			
1168.16	2972238.5	4513650.0	1168.08	-0.00			
591.15	1499411.0	4513382.4	591.06	-0.00			
14.49	30773.1	4513094.6	14.51	0.00			

TEMPERATURE (°C)	SPAN
4.61	311613.40
25.07	312180.67
33.61	312309.01

y = thermistor output (counts)

$$t = PTHA0 + PTHA1 * y + PTHA2 * y^2$$

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

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

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

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

Date, Offset (%FSR)

● 18-Sep-17 0.00

