



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19599
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2584.48
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	12400301	2000m(2000 dBar)



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www.seabird.com

SENSOR SERIAL NUMBER: 19599
CALIBRATION DATE: 29-Sep-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

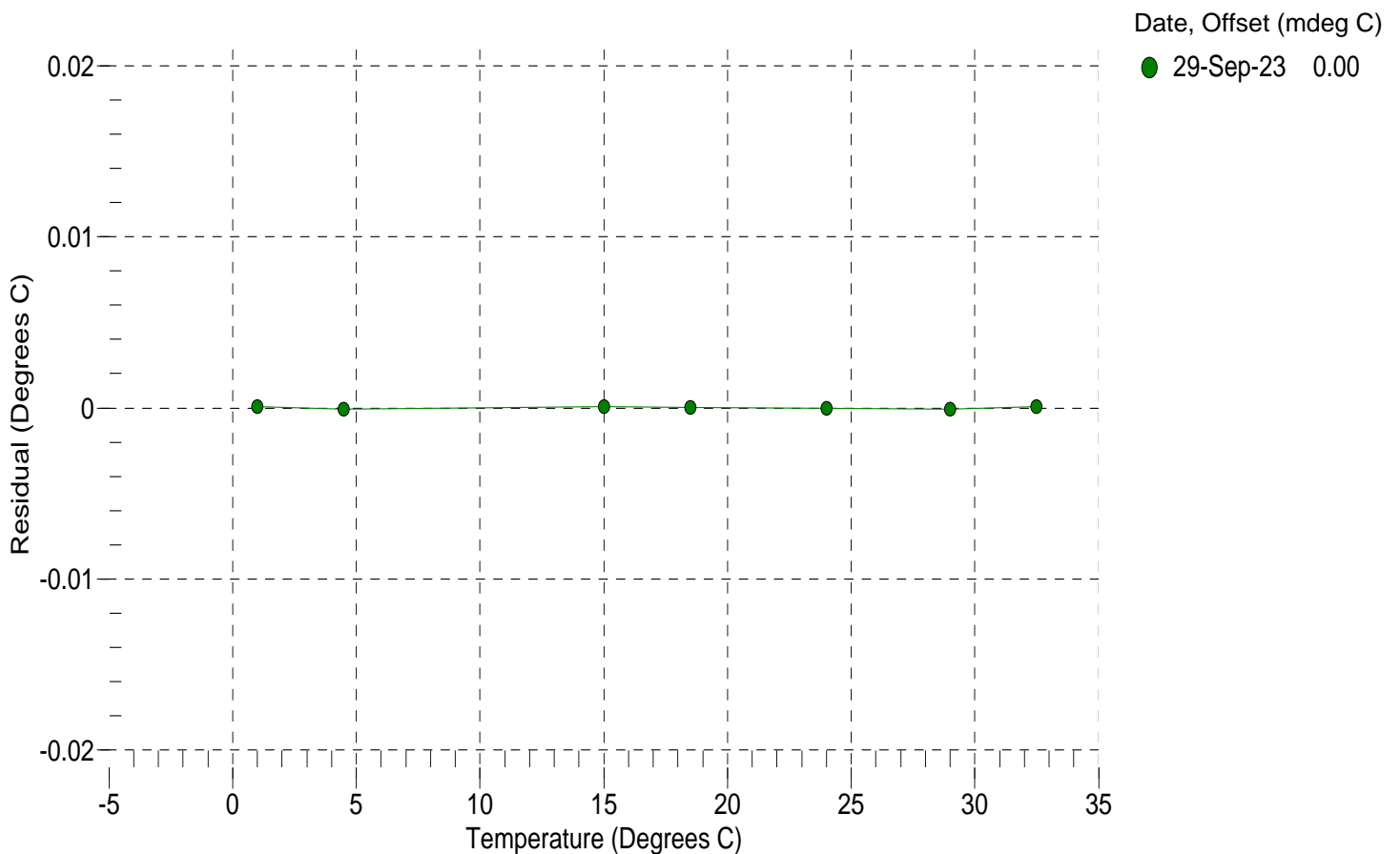
a0 = -8.080478e-004
a1 = 2.866082e-004
a2 = -3.357352e-006
a3 = 1.414659e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14914810.7	1.0001	0.0001
4.5000	12734351.1	4.4999	-0.0001
15.0000	8083035.7	15.0001	0.0001
18.5000	6990116.2	18.5000	0.0000
23.9940	5598048.3	23.9940	-0.0000
29.0000	4600500.3	28.9999	-0.0001
32.5000	4023988.5	32.5001	0.0001

n = Instrument Output (counts)

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 = -1.017211e+000
h = 1.525390e-001
i = -1.966072e-004
j = 3.876735e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -7.0928e-007

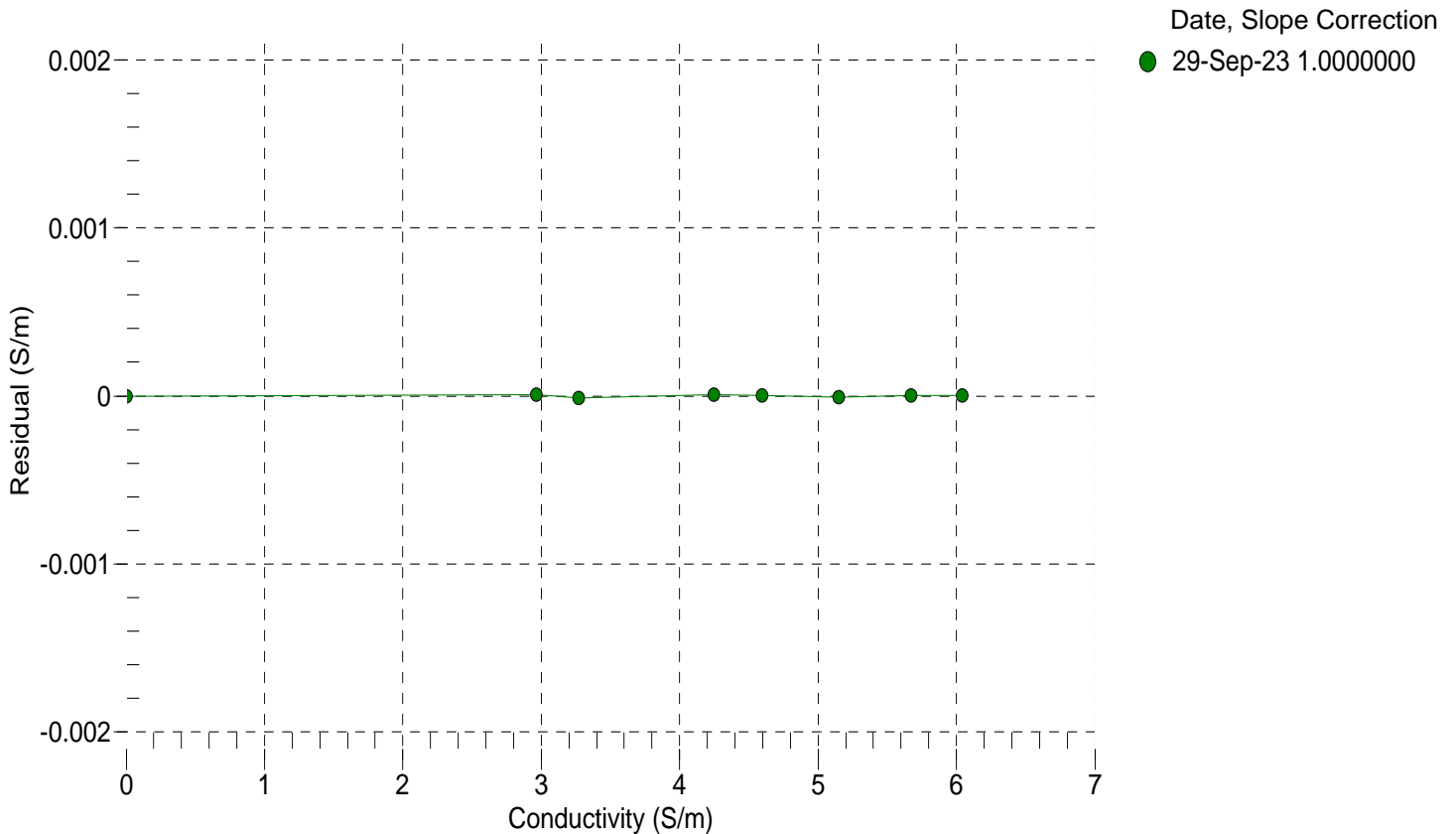
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2584.48	0.00000	0.00000
1.0000	34.6724	2.96483	5109.20	2.96484	0.00001
4.5000	34.6542	3.27093	5301.26	3.27092	-0.00001
15.0000	34.6148	4.24950	5872.61	4.24951	0.00001
18.5000	34.6069	4.59358	6060.45	4.59358	0.00000
23.9940	34.5988	5.14922	6351.78	5.14921	-0.00001
29.0000	34.5949	5.67012	6612.96	5.67012	0.00000
32.5000	34.5936	6.04153	6792.87	6.04153	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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CALIBRATION DATE: 26-Sep-23

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12400301

COEFFICIENTS:

PA0 =	4.426657e-001	PTCA0 =	-1.558323e+003
PA1 =	3.928116e-004	PTCA1 =	6.908914e+001
PA2 =	-2.864138e-013	PTCA2 =	-8.024923e-001
PTHA0 =	2.852613e+002	PTCB0 =	3.198079e+005
PTHA1 =	-6.058448e-005	PTCB1 =	-2.499408e+000
PTHA2 =	-9.246487e-013	PTCB2 =	1.580196e-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)
14.51	35293.0	4092027.2	14.47	-0.00	32.50	3935704.60	37085.00
590.52	1503903.0	4089315.2	590.67	0.01	29.00	3987076.20	37107.49
1166.87	2975859.0	4087682.4	1166.94	0.00	23.99	4060820.60	37001.05
1743.10	4450963.8	4086209.2	1743.20	0.00	18.50	4141381.80	36722.67
2320.04	5930718.6	4084947.2	2320.02	-0.00	15.00	4192624.60	36536.15
2896.28	7412362.2	4083559.2	2896.32	0.00	4.50	4345928.20	36049.77
2319.62	5929532.6	4083438.0	2319.55	-0.00	1.00	4396933.00	35809.16
1743.02	4450539.2	4083111.2	1743.03	0.00			
1166.72	2974872.4	4082861.6	1166.55	-0.01	TEMPERATURE (°C) SPAN		
590.39	1503035.8	4082566.8	590.32	-0.00	1.68	319804.20	
14.50	35398.4	4080378.8	14.51	0.00	20.27	319822.20	
					32.57	319894.17	

y = thermistor output (counts)

t = PTHA0 + PTHA1 * y + PTHA2 * y²

x = instrument output - PTCA0 - PTCA1 * t - PTCA2 * t²

n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t²)

pressure (PSIA) = PA0 + PA1 * n + PA2 * n²

Residual (%FSR) = (computed pressure - true pressure) * 100 / Full Scale Range

Date, Offset (%FSR)

● 26-Sep-23 0.00

