



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19378
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2610.98
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	12406095	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 19378
CALIBRATION DATE: 25-Jun-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

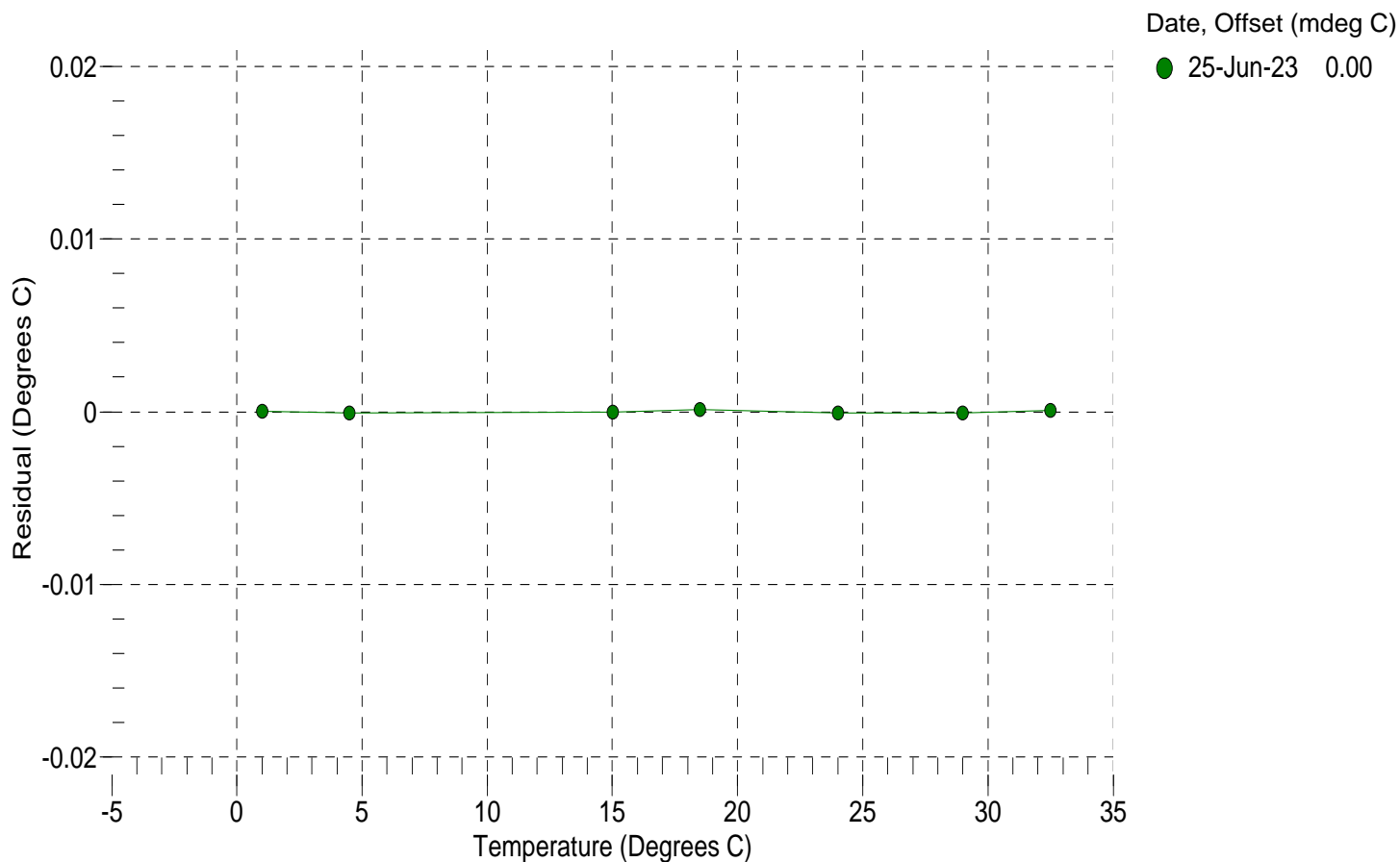
a0 = -9.280340e-004
a1 = 3.084160e-004
a2 = -4.718356e-006
a3 = 1.702797e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14978720.6	1.0000	0.0000
4.5000	12792029.5	4.4999	-0.0001
15.0001	8125126.1	15.0001	-0.0000
18.5000	7027952.9	18.5001	0.0001
24.0000	5628865.8	23.9999	-0.0001
29.0000	4628280.3	28.9999	-0.0001
32.5000	4049118.6	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 = -1.016459e+000
h = 1.492586e-001
i = -1.452629e-004
j = 3.382004e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -2.3296e-006

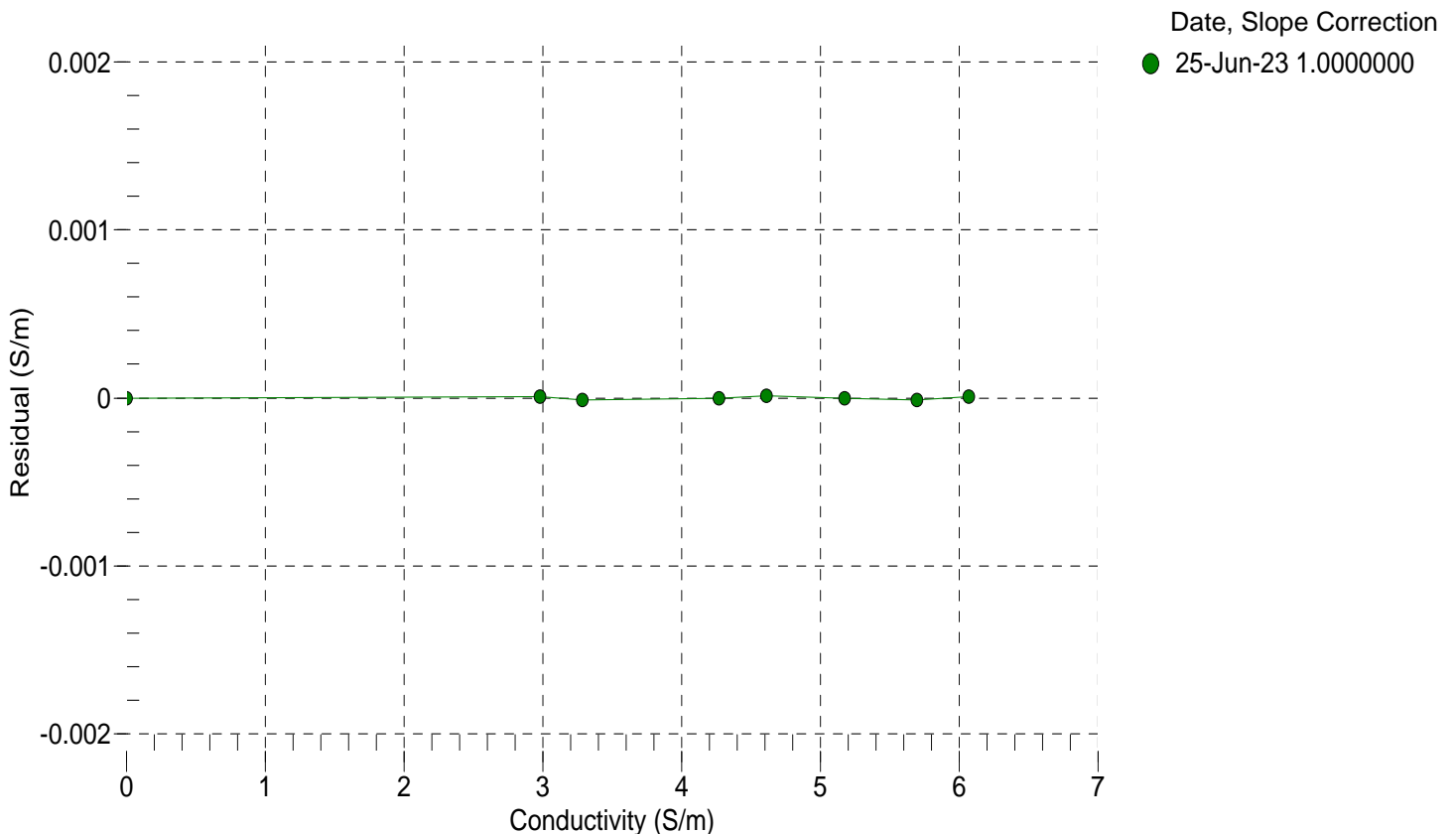
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2610.98	0.00000	0.00000
1.0000	34.8649	2.97972	5171.68	2.97973	0.00001
4.5000	34.8446	3.28713	5366.21	3.28712	-0.00001
15.0001	34.8020	4.27005	5944.96	4.27005	-0.00000
18.5000	34.7930	4.61561	6135.22	4.61563	0.00001
24.0000	34.7827	5.17418	6430.57	5.17418	-0.00000
29.0000	34.7757	5.69642	6694.64	5.69641	-0.00001
32.5000	34.7677	6.06847	6876.43	6.06848	0.00001

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

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: 29-Jun-23

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12406095

COEFFICIENTS:

PA0 =	5.805509e-001	PTCA0 =	-5.264034e+003
PA1 =	3.915425e-004	PTCA1 =	8.390575e+001
PA2 =	-2.968338e-013	PTCA2 =	-7.964750e-001
PTHA0 =	2.873850e+002	PTCB0 =	3.233166e+005
PTHA1 =	-6.117341e-005	PTCB1 =	1.286127e+000
PTHA2 =	-8.706664e-013	PTCB2 =	1.800164e-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)
14.54	31630.0	4092213.6	14.44	-0.00	32.50	3945077.00	33320.80
589.78	1503632.2	4087471.2	589.89	0.00	29.00	3996513.00	33313.28
1165.93	2980295.4	4085274.8	1165.87	-0.00	24.00	4069808.40	33141.62
1741.79	4459889.0	4083574.0	1741.70	-0.00	18.50	4150226.20	32772.64
2317.76	5943826.6	4082126.4	2317.91	0.01	15.00	4201457.60	32502.15
2893.65	7429770.0	4081101.6	2893.59	-0.00	4.50	4354520.00	31859.76
2317.74	5943560.8	4081358.8	2317.80	0.00	1.00	4405259.00	31605.49
1741.58	4459399.8	4081559.6	1741.50	-0.00	<div>TEMPERATURE (°C) SPAN</div> <div>2.01 323319.90</div> <div>20.89 323421.99</div> <div>33.01 323555.25</div>		
1165.70	2979830.4	4081752.0	1165.68	-0.00			
589.77	1503495.6	4082040.8	589.83	0.00			
14.54	32001.2	4081712.0	14.57	0.00			

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)

● 29-Jun-23 -0.00

