



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19440
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2847.43
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	12198116	2000m(2000 dBar)



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www.seabird.com

SENSOR SERIAL NUMBER: 19440
CALIBRATION DATE: 24-Jul-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

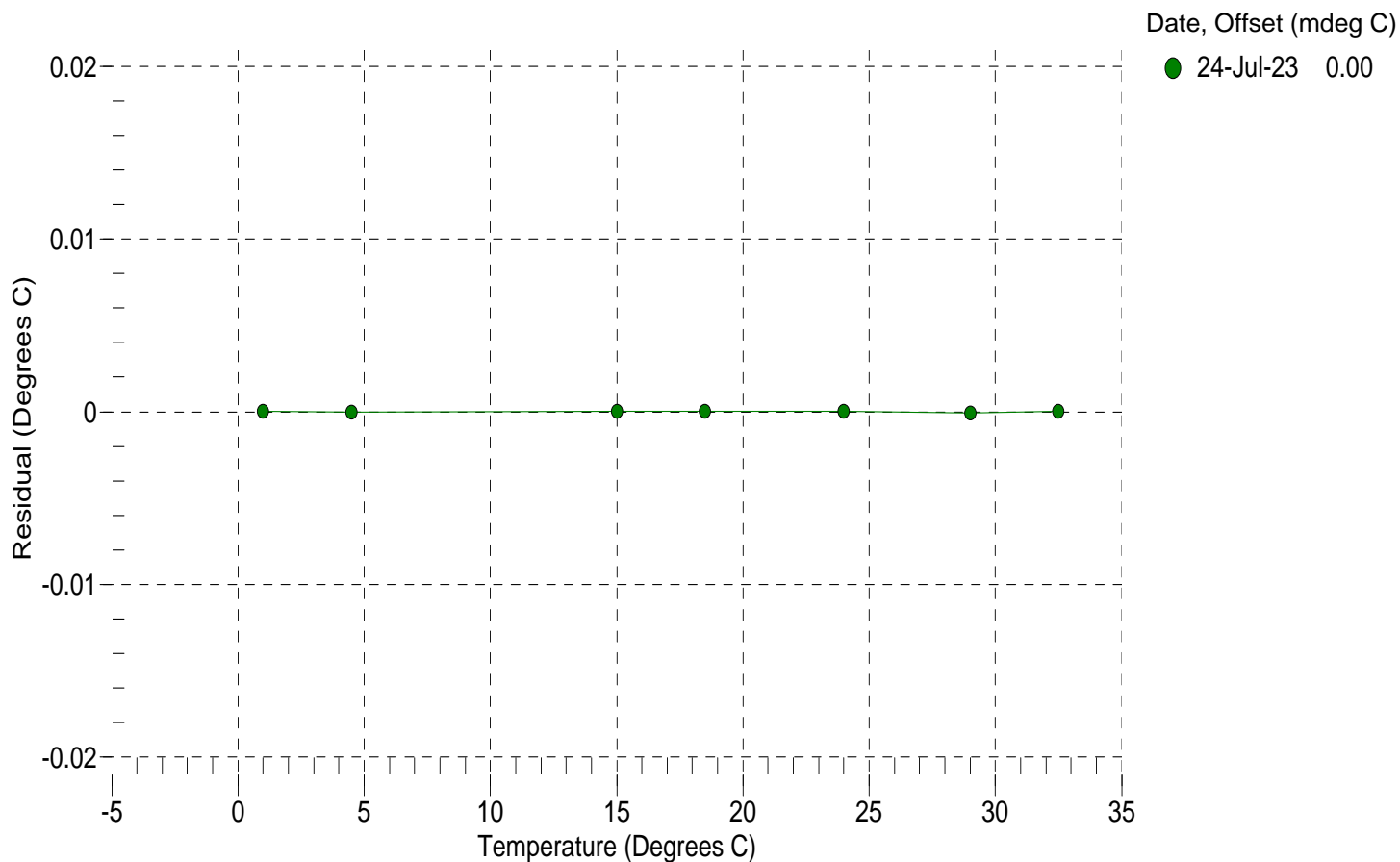
a0 = -7.517540e-004
a1 = 2.839550e-004
a2 = -3.552245e-006
a3 = 1.499441e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15044101.5	1.0000	0.0000
4.5000	12829748.7	4.5000	-0.0000
15.0001	8114204.8	15.0001	0.0000
18.5000	7008380.8	18.5000	0.0000
24.0000	5600259.7	24.0000	0.0000
29.0001	4595050.8	29.0000	-0.0001
32.5000	4014088.0	32.5000	0.0000

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 = -1.005543e+000
h = 1.242663e-001
i = -1.634023e-004
j = 2.744272e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -9.3639e-007

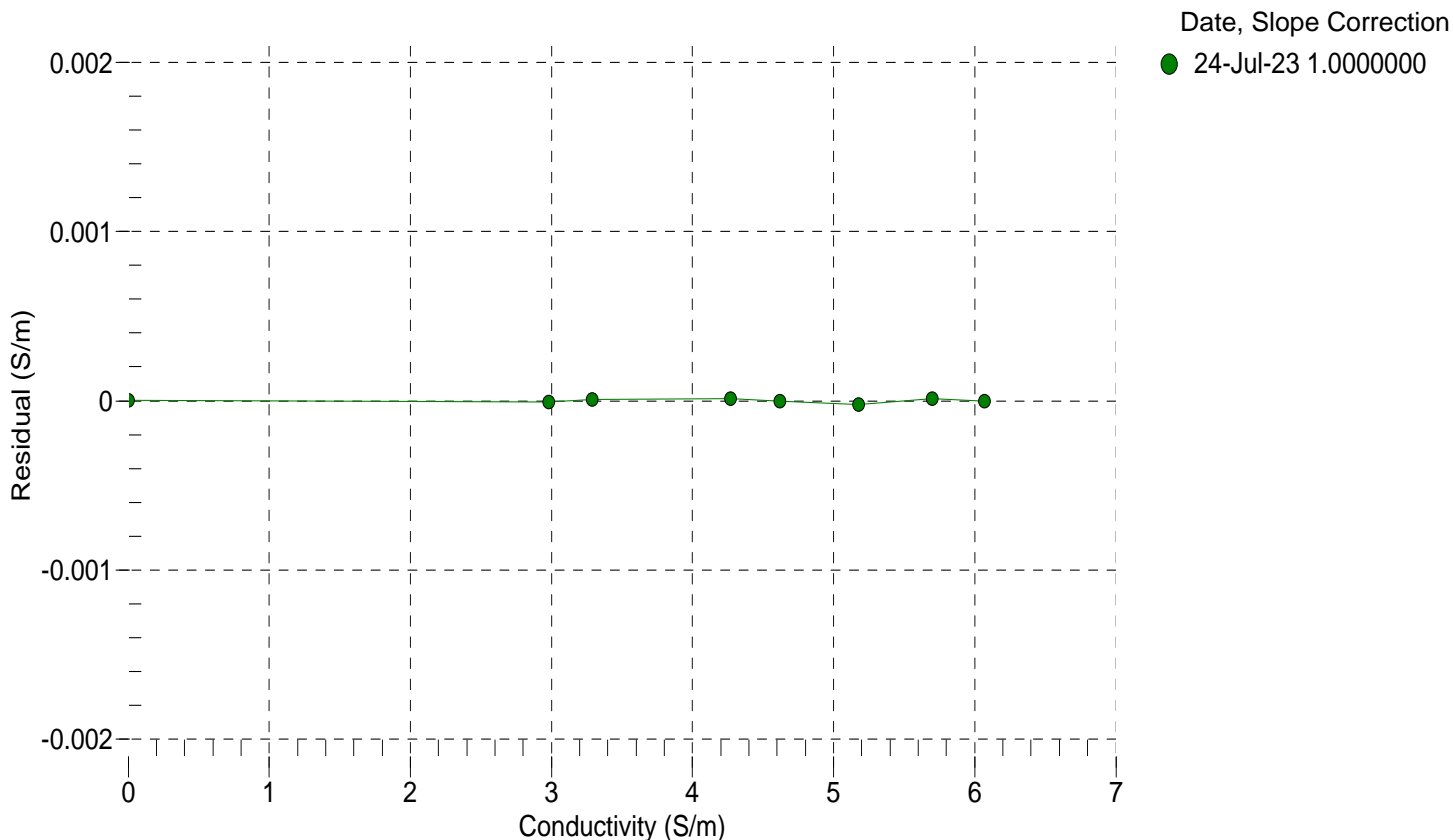
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2847.43	0.00000	0.00000
1.0000	34.8754	2.98053	5664.68	2.98052	-0.00001
4.5000	34.8560	3.28810	5878.43	3.28811	0.00001
15.0001	34.8147	4.27145	6514.09	4.27146	0.00001
18.5000	34.8062	4.61717	6723.00	4.61717	-0.00000
24.0000	34.7968	5.17605	7047.30	5.17602	-0.00002
29.0001	34.7903	5.69855	7337.21	5.69856	0.00001
32.5000	34.7832	6.07087	7536.76	6.07087	-0.00000

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

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

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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SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12198116

COEFFICIENTS:

PA0 =	-7.451421e-002	PTCA0 =	-4.551580e+003
PA1 =	3.898034e-004	PTCA1 =	1.847867e+001
PA2 =	-2.655535e-013	PTCA2 =	-1.194030e+000
PTHA0 =	2.943596e+002	PTCB0 =	3.176552e+005
PTHA1 =	-6.148852e-005	PTCB1 =	3.589334e+000
PTHA2 =	-9.449296e-013	PTCB2 =	2.063615e-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)
14.55	32607.4	4154811.6	14.48	-0.00	32.50	4011406.60	33342.40
589.92	1511701.6	4151574.8	590.08	0.01	29.00	4062014.00	33646.80
1165.55	2993755.4	4150022.8	1165.67	0.00	24.00	4134244.00	33920.44
1741.21	4478602.4	4148652.4	1741.17	-0.00	18.50	4213502.20	33931.48
2317.10	5967551.6	4147216.8	2317.08	-0.00	15.00	4263912.40	34051.51
2893.00	7459794.8	4145912.8	2893.08	0.00	4.50	4414572.80	34114.93
2316.86	5966850.8	4145714.0	2316.80	-0.00	1.00	4464626.60	34106.33
1740.99	4478001.8	4145416.0	1740.92	-0.00			
1164.76	2991163.2	4145160.0	1164.65	-0.00			
589.71	1510924.6	4144835.6	589.78	0.00			
14.55	32635.2	4143686.0	14.50	-0.00			

TEMPERATURE (°C)	SPAN
2.01	317663.27
20.73	317818.28
32.17	317984.19

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)

● 20-Jul-23 -0.00

