



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19424
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2852.21
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	12378215	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 19424
CALIBRATION DATE: 21-Jul-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

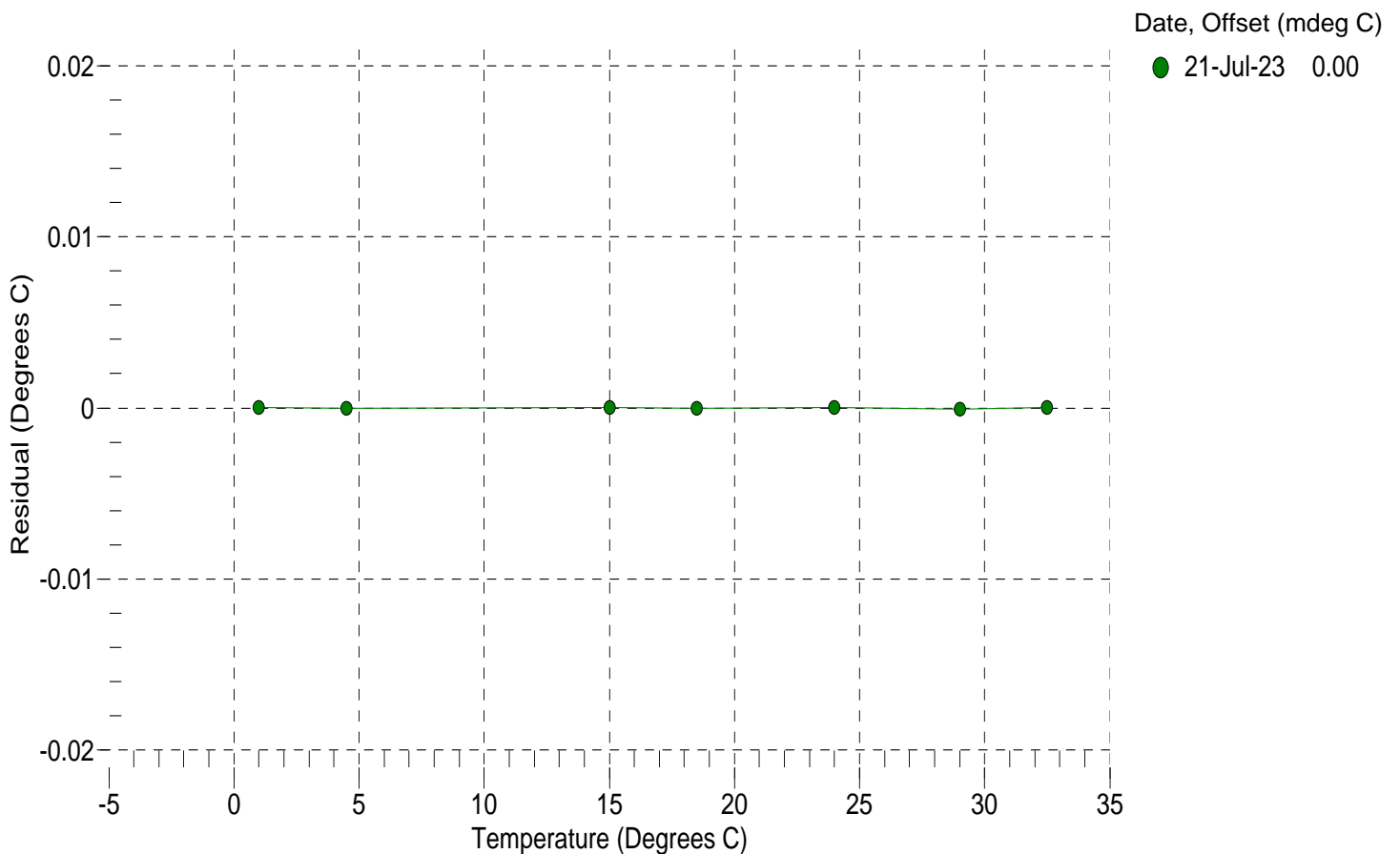
a0 = -9.488299e-004
a1 = 3.078308e-004
a2 = -4.683442e-006
a3 = 1.675133e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0001	16803221.8	1.0001	0.0000
4.5000	14343555.7	4.5000	-0.0000
15.0000	9098699.1	15.0000	0.0000
18.5000	7866856.7	18.5000	-0.0000
24.0000	6296752.7	24.0000	0.0000
29.0000	5174634.0	28.9999	-0.0001
32.5000	4525440.2	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 = -1.014727e+000
h = 1.250756e-001
i = -2.058362e-004
j = 3.068045e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -1.4022e-006

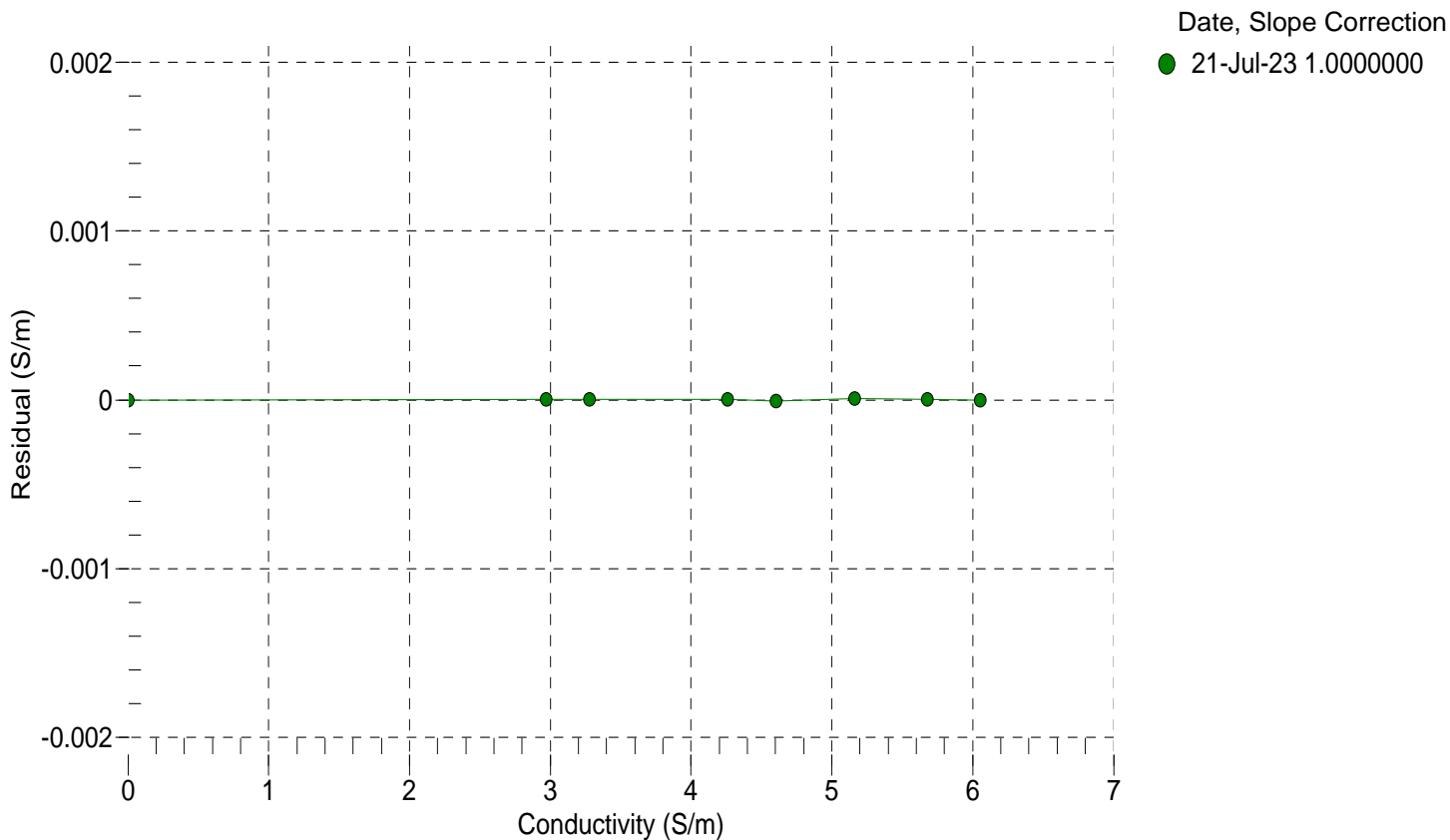
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2852.21	0.00000	0.00000
1.0001	34.7463	2.97056	5648.90	2.97056	0.00000
4.5000	34.7270	3.27713	5861.45	3.27713	0.00000
15.0000	34.6856	4.25727	6493.65	4.25727	0.00000
18.5000	34.6768	4.60186	6701.45	4.60185	-0.00001
24.0000	34.6672	5.15889	7024.05	5.15890	0.00001
29.0000	34.6616	5.67983	7312.50	5.67983	0.00000
32.5000	34.6567	6.05130	7511.21	6.05130	-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 12378215

COEFFICIENTS:

PA0 =	-7.895590e-002	PTCA0 =	2.813568e+003
PA1 =	3.911683e-004	PTCA1 =	1.116718e+001
PA2 =	-2.876749e-013	PTCA2 =	-8.129486e-001
PTHA0 =	2.819307e+002	PTCB0 =	3.239990e+005
PTHA1 =	-6.067362e-005	PTCB1 =	6.567510e+000
PTHA2 =	-8.561516e-013	PTCB2 =	1.044663e-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)
14.56	39744.6	4021841.6	14.44	-0.00	32.50	3896748.60	40682.20
590.07	1514293.2	4021290.4	590.19	0.00	29.00	3948700.80	40938.06
1165.76	2991476.6	4020868.0	1165.71	-0.00	24.00	4022766.80	41139.89
1741.65	4472690.8	4020603.6	1741.55	-0.00	18.50	4104077.60	41186.31
2317.25	5956677.4	4020467.2	2317.20	-0.00	15.00	4155790.40	41125.53
2893.14	7444762.4	4020417.2	2893.17	0.00	4.50	4310286.60	41292.61
2316.18	5954289.4	4021374.0	2316.28	0.00	1.00	4361777.60	41274.02
1741.30	4471834.8	4022434.8	1741.22	-0.00	TEMPERATURE (°C) SPAN		
1165.56	2990879.4	4023367.6	1165.49	-0.00			
588.79	1511389.0	4024134.0	589.06	0.01			
14.56	39938.4	4024892.4	14.51	-0.00			
					1.96	324012.30	
					20.67	324179.47	
					32.96	324329.01	

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)

● 13-Jul-23 -0.00

