



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19450
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2837.20
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	12198120	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 19450
CALIBRATION DATE: 01-Aug-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

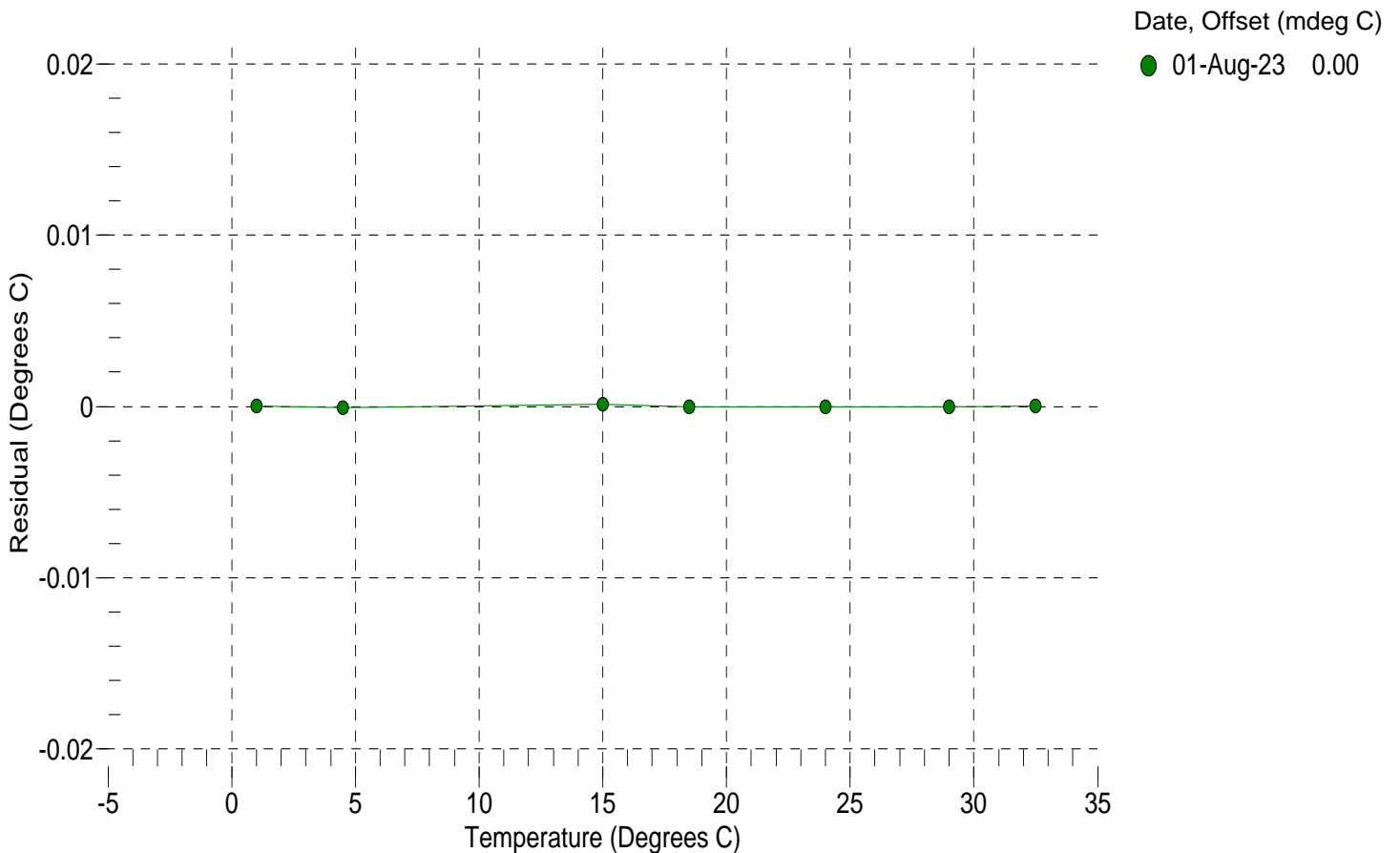
a0 = -8.845312e-004
a1 = 2.968975e-004
a2 = -3.949473e-006
a3 = 1.542953e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15446692.1	1.0000	0.0000
4.5000	13199041.7	4.4999	-0.0001
15.0000	8397204.7	15.0001	0.0001
18.5000	7267134.0	18.5000	-0.0000
23.9940	5826390.1	23.9940	-0.0000
29.0000	4792887.7	29.0000	-0.0000
32.5000	4195115.5	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 = -1.016669e+000
h = 1.265171e-001
i = -1.541054e-004
j = 2.733225e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -3.8178e-007

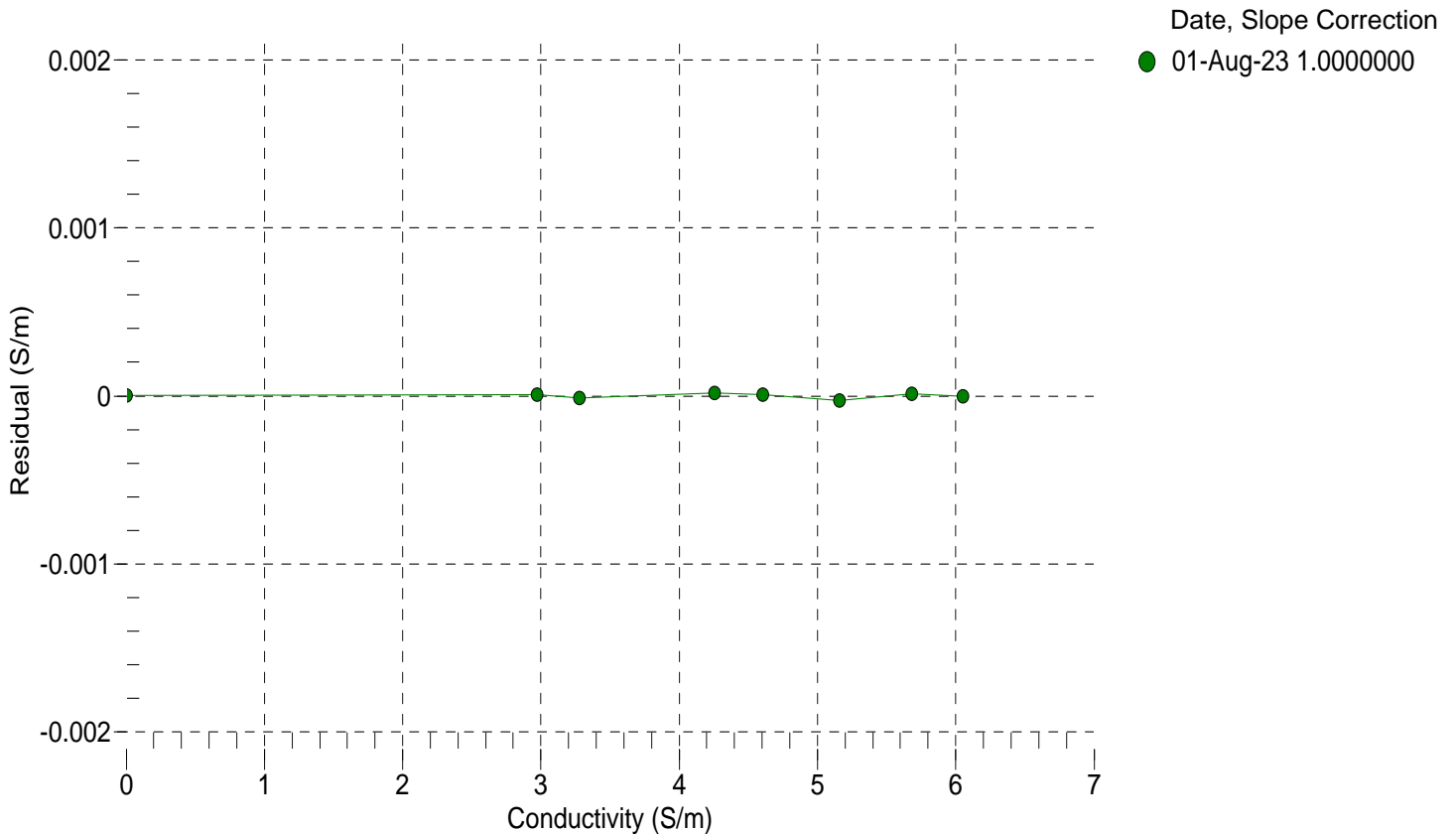
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2837.20	0.00000	0.00000
1.0000	34.7439	2.97037	5613.81	2.97037	0.00001
4.5000	34.7251	3.27697	5824.91	3.27695	-0.00001
15.0000	34.6850	4.25721	6452.89	4.25722	0.00002
18.5000	34.6767	4.60184	6659.32	4.60185	0.00001
23.9940	34.6684	5.15843	6979.50	5.15841	-0.00003
29.0000	34.6643	5.68022	7266.54	5.68023	0.00001
32.5000	34.6625	6.05220	7464.22	6.05220	-0.00000

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

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

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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SENSOR SERIAL NUMBER: 19450
CALIBRATION DATE: 28-Jul-23

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12198120

COEFFICIENTS:

PA0 =	1.703619e-001	PTCA0 =	-4.550189e+003
PA1 =	3.892901e-004	PTCA1 =	4.469303e+001
PA2 =	-2.862746e-013	PTCA2 =	-1.103647e+000
PTHA0 =	2.917243e+002	PTCB0 =	3.183030e+005
PTHA1 =	-6.138603e-005	PTCB1 =	-6.470577e+000
PTHA2 =	-9.157035e-013	PTCB2 =	3.072904e-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)
14.53	32682.8	4110673.6	14.49	-0.00	32.50	3985928.60	33873.70
589.79	1512636.4	4109260.0	589.93	0.00	29.00	4036668.60	34030.85
1165.43	2996018.2	4108404.8	1165.43	0.00	23.99	4109539.00	34179.55
1741.11	4483075.8	4107702.4	1741.10	-0.00	18.50	4189157.60	34100.93
2316.88	5973808.4	4107087.2	2316.92	0.00	15.00	4239817.40	33988.56
2892.54	7467387.6	4106516.0	2892.56	0.00	4.50	4391256.20	33771.35
2316.72	5973195.4	4107084.0	2316.68	-0.00	1.00	4441747.60	33740.53
1740.82	4482206.8	4107608.8	1740.76	-0.00	TEMPERATURE (°C) SPAN		
1165.03	2994813.8	4108069.2	1164.97	-0.00			
589.50	1511594.0	4108493.2	589.52	0.00			
14.52	32641.4	4108799.6	14.48	-0.00			
					2.01	318291.19	
					20.73	318300.87	
					32.17	318412.77	

y = thermistor output (counts)

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

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

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

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

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

Date, Offset (%FSR)

● 28-Jul-23 0.00

