



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-17523
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2570.69
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	12119248	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 17523
CALIBRATION DATE: 26-Apr-22

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

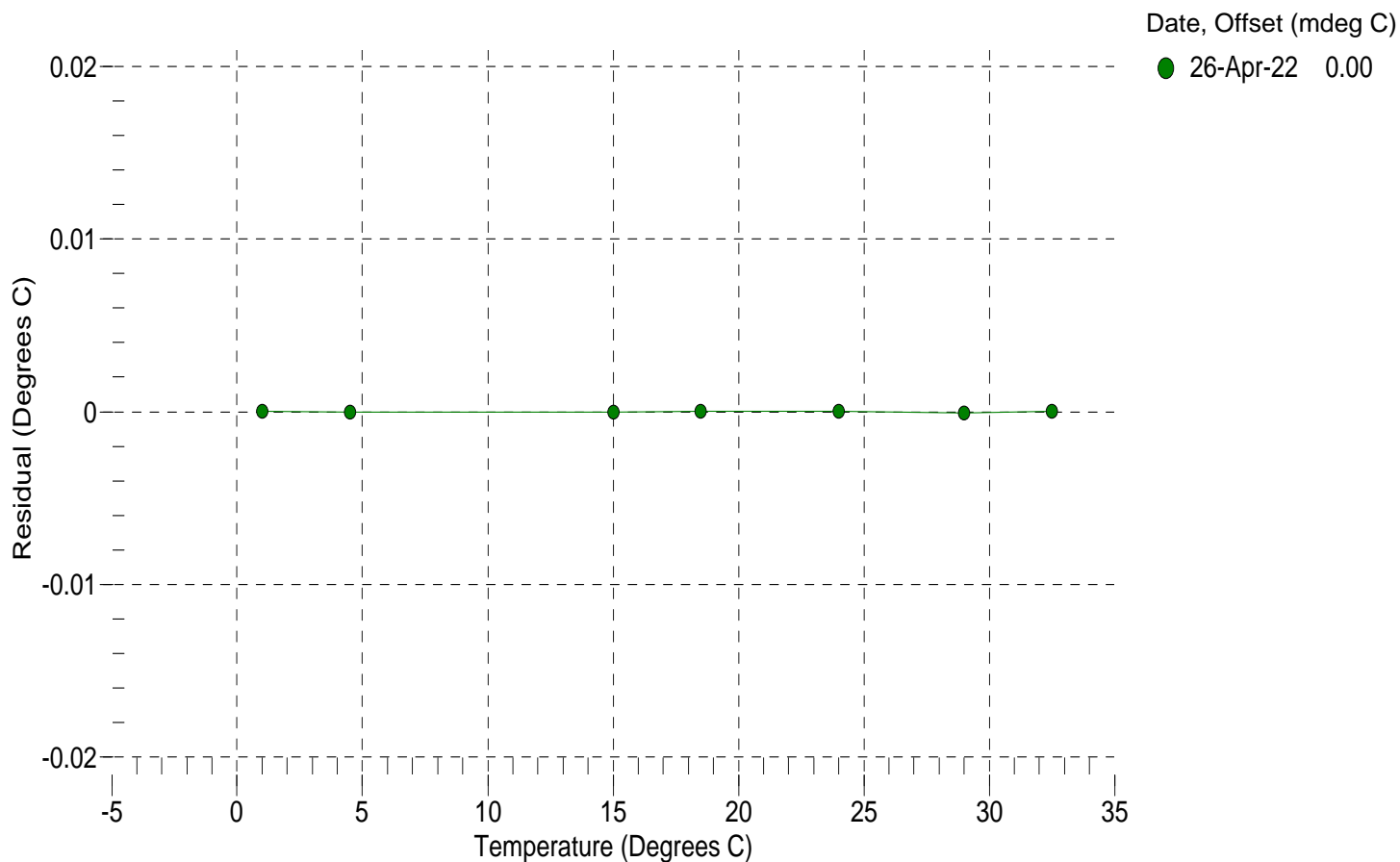
a0 = -9.232788e-004
a1 = 2.971080e-004
a2 = -3.954272e-006
a3 = 1.538114e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	17631253.4	1.0000	0.0000
4.5000	15070766.8	4.5000	-0.0000
15.0000	9597278.3	15.0000	-0.0000
18.5000	8308151.2	18.5000	0.0000
23.9940	6664054.2	23.9940	0.0000
29.0001	5484129.3	29.0000	-0.0001
32.5000	4801441.3	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 = -1.004371e+000
h = 1.526939e-001
i = -4.227081e-004
j = 5.668185e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 3.5655e-007

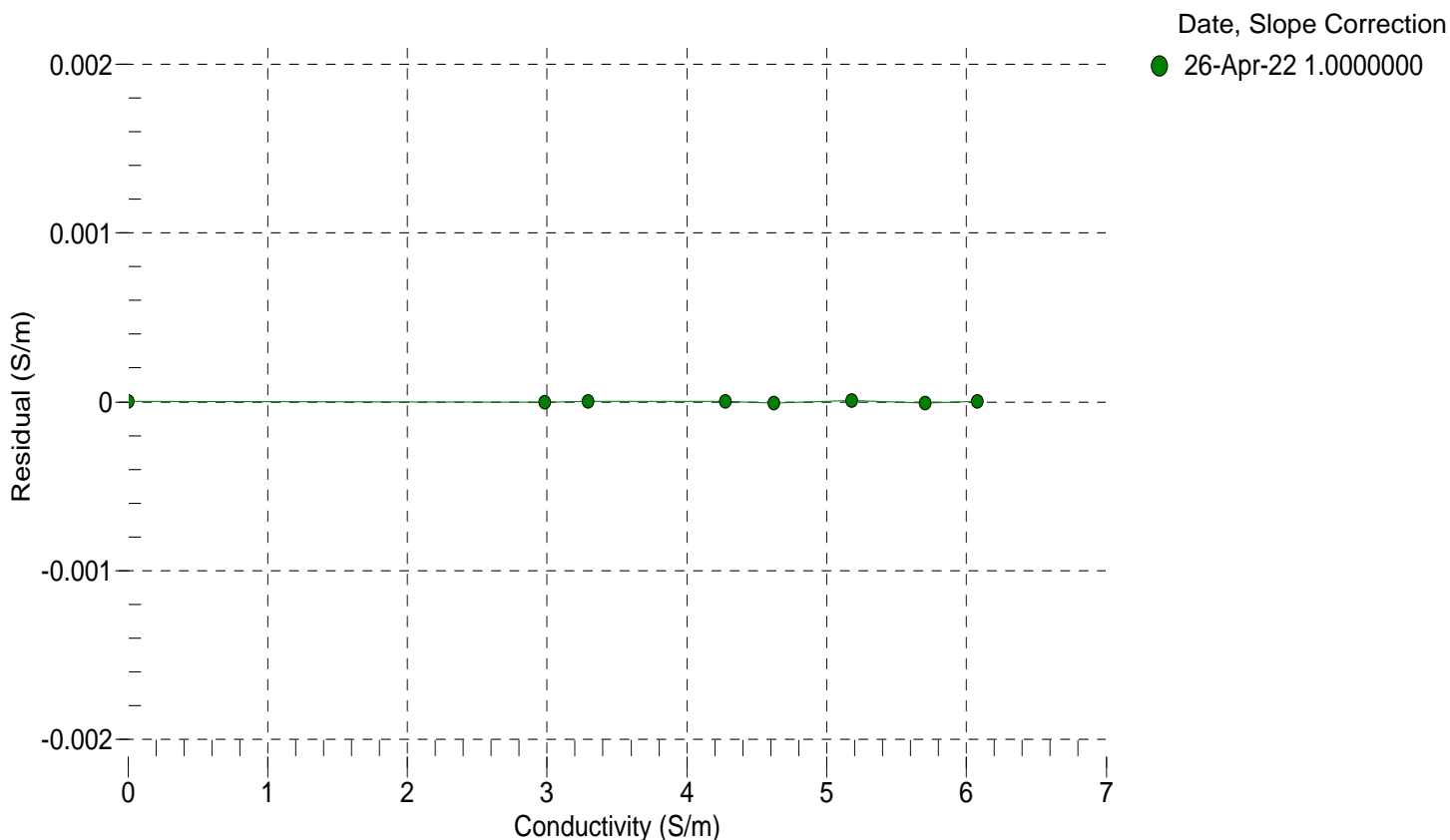
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2570.69	0.00000	0.00000
1.0000	34.9142	2.98353	5121.87	2.98353	-0.00000
4.5000	34.8952	3.29143	5315.37	3.29144	0.00000
15.0000	34.8545	4.27580	5890.69	4.27581	0.00000
18.5000	34.8462	4.62191	6079.74	4.62190	-0.00001
23.9940	34.8373	5.18078	6372.87	5.18079	0.00001
29.0001	34.8329	5.70474	6635.55	5.70473	-0.00001
32.5000	34.8299	6.07809	6816.34	6.07810	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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SENSOR SERIAL NUMBER: 17523
CALIBRATION DATE: 22-Apr-22

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12119248

COEFFICIENTS:

PA0 =	6.835205e-002	PTCA0 =	3.190174e+001
PA1 =	3.922669e-004	PTCA1 =	3.757313e+001
PA2 =	-2.499363e-013	PTCA2 =	-1.341191e+000
PTHA0 =	3.019415e+002	PTCB0 =	3.239173e+005
PTHA1 =	-6.298578e-005	PTCB1 =	-6.359572e+000
PTHA2 =	-8.546409e-013	PTCB2 =	2.483396e-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	37053.9	4202507.4	14.52	-0.00	32.50	4054789.20	37768.60
591.48	1509266.9	4201152.0	591.49	0.00	29.00	4104780.80	38018.60
1169.01	2986028.1	4200419.6	1169.15	0.00	23.99	4175986.20	38215.87
1746.61	4464939.2	4199753.0	1746.55	-0.00	18.50	4254542.00	38260.24
2324.07	5946835.2	4199063.0	2324.03	-0.00	15.00	4304423.40	38202.27
2901.59	7431850.8	4198416.6	2901.61	0.00	4.50	4453167.60	38162.72
2323.95	5946997.7	4198809.4	2324.09	0.00	1.00	4502852.80	38069.24
1746.89	4465187.3	4199114.8	1746.65	-0.01	TEMPERATURE (°C) SPAN		
1168.81	2985111.3	4199410.8	1168.79	-0.00			
591.22	1509019.9	4199706.8	591.39	0.01			
14.56	36959.8	4199075.6	14.49	-0.00			
					2.24	323904.34	
					21.01	323893.35	
					33.17	323979.64	

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)

● 22-Apr-22 0.00

