



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-14160
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2597.17
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	11695225	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 14160
CALIBRATION DATE: 08-Apr-21

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

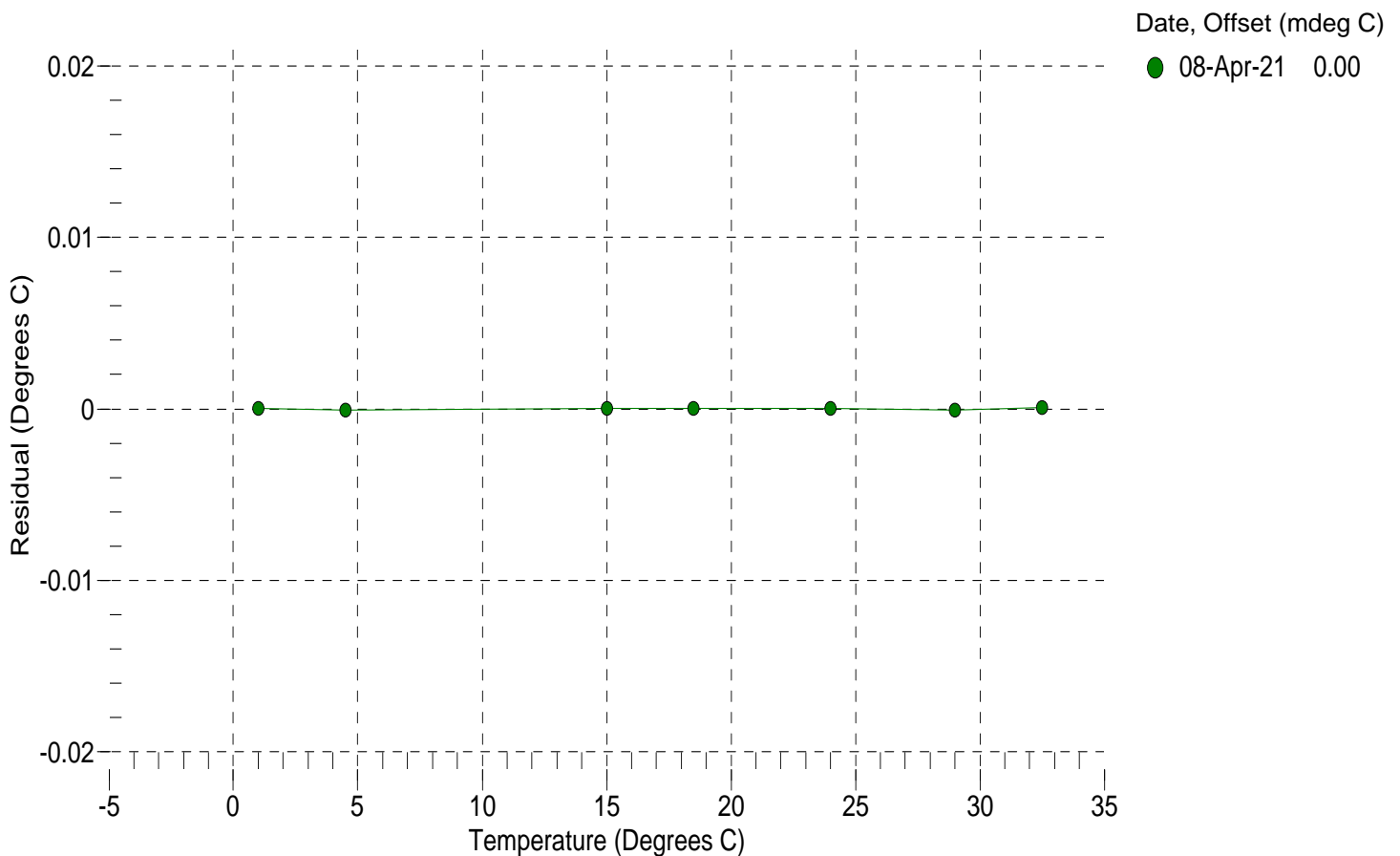
a0 = -8.431061e-004
a1 = 2.913723e-004
a2 = -3.573876e-006
a3 = 1.484443e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14126025.0	1.0000	0.0000
4.5000	12079707.6	4.4999	-0.0001
15.0000	7701817.7	15.0000	0.0000
18.5000	6669882.3	18.5000	0.0000
24.0000	5351868.5	24.0000	0.0000
29.0000	4407614.5	28.9999	-0.0001
32.5000	3860261.1	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 = -1.020746e+000
h = 1.518573e-001
i = -3.257200e-004
j = 4.668466e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 4.1708e-007

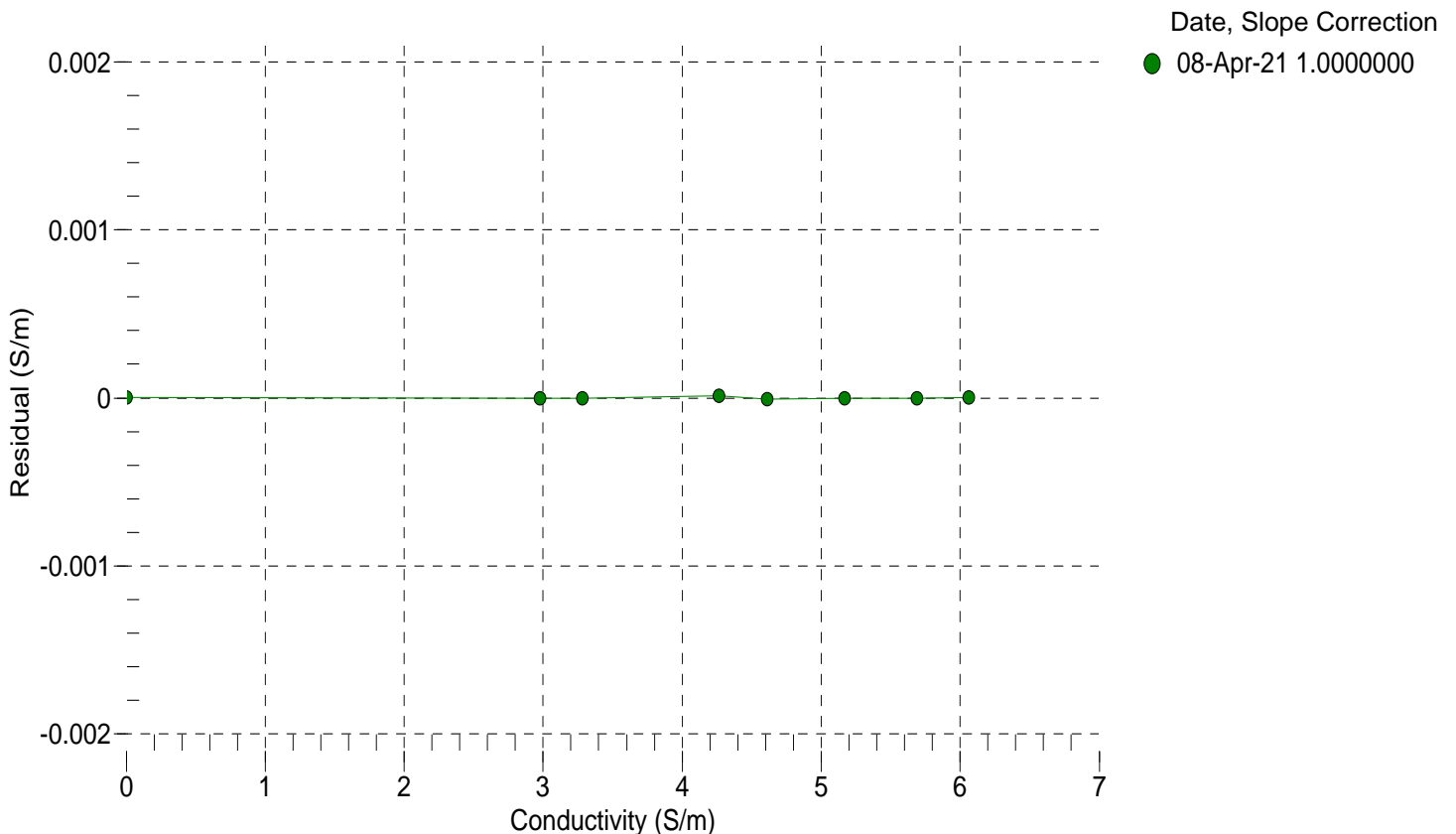
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2597.17	0.00000	0.00000
1.0000	34.8087	2.97538	5137.29	2.97538	-0.00000
4.5000	34.7894	3.28244	5330.47	3.28244	-0.00000
15.0000	34.7467	4.26398	5905.06	4.26399	0.00001
18.5000	34.7373	4.60902	6093.90	4.60901	-0.00001
24.0000	34.7264	5.16673	6387.08	5.16673	-0.00000
29.0000	34.7195	5.68825	6649.23	5.68824	-0.00000
32.5000	34.7144	6.06023	6829.87	6.06023	0.00000

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

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

$\text{Conductivity (S/m)} = (g + h * f^2 + i * f^3 + j * f^4) / (1 + \delta * t + \epsilon * p)$

Residual (Siemens/meter) = instrument conductivity - bath conductivity





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CALIBRATION DATE: 05-Apr-21

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11695225

COEFFICIENTS:

PA0 =	5.203619e-001	PTCA0 =	-1.372317e+003
PA1 =	3.913819e-004	PTCA1 =	1.051773e+002
PA2 =	-2.899229e-013	PTCA2 =	-2.004806e+000
PTHA0 =	2.933571e+002	PTCB0 =	3.105836e+005
PTHA1 =	-6.178016e-005	PTCB1 =	5.418560e+000
PTHA2 =	-8.843381e-013	PTCB2 =	-1.240521e-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)
14.64	36132.0	4157015.2	14.68	0.00	32.50	3994010.20	36578.00
591.70	1512466.7	4148057.2	591.71	0.00	29.00	4044810.20	36748.80
1168.55	2991770.1	4146974.8	1168.64	0.00	24.00	4117261.40	36804.97
1745.49	4474442.3	4146075.2	1745.61	0.00	18.50	4196834.80	36615.06
2322.46	5960225.3	4145245.2	2322.52	0.00	15.00	4247360.80	36383.09
2899.37	7449200.8	4144481.4	2899.38	0.00	4.50	4398668.80	35743.93
2322.53	5959942.7	4144724.2	2322.41	-0.00	1.00	4448861.40	35490.72
1745.90	4475289.1	4144916.8	1745.94	0.00			
1168.68	2991400.7	4145106.0	1168.49	-0.01			
591.58	1512016.5	4145184.6	591.53	-0.00			
14.63	36041.2	4145134.8	14.63	-0.00			

TEMPERATURE (°C)	SPAN
1.79	310592.94
20.45	310642.56
32.79	310627.92

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)

● 05-Apr-21 -0.00

