



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-17635
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2634.86
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	Kistler	5831381	4000m(7000 dBar)



Sea-Bird Scientific
13431 NE 20th Street
Bellevue, WA 98005
USA

+1 425-643-9866
seabird@seabird.com
www.seabird.com

SENSOR SERIAL NUMBER: 17635
CALIBRATION DATE: 24-May-22

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

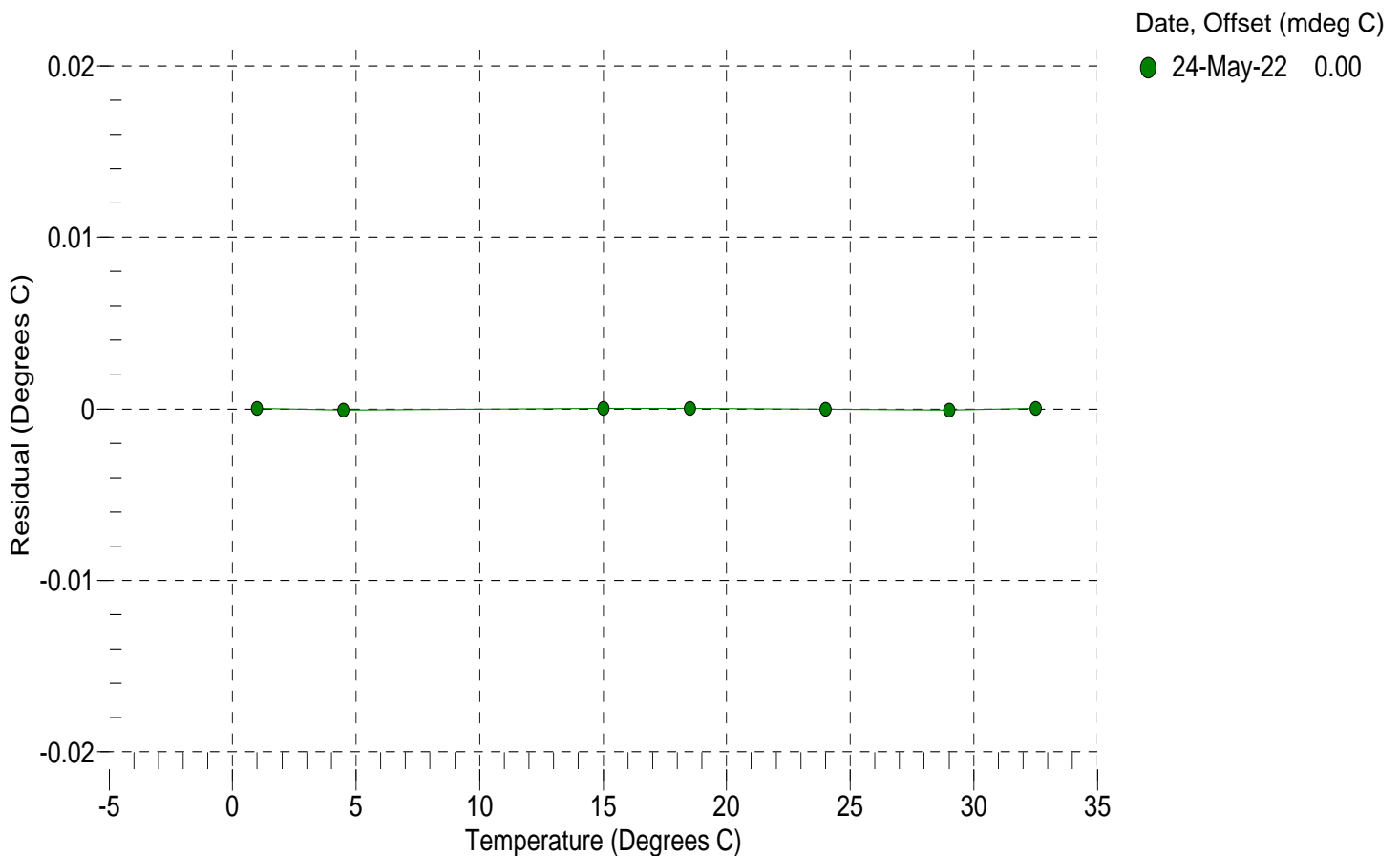
a0 = -8.283323e-004
a1 = 2.875533e-004
a2 = -3.352782e-006
a3 = 1.432059e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14692464.5	1.0000	0.0000
4.5000	12560721.1	4.4999	-0.0001
15.0000	8002355.3	15.0000	0.0000
18.5000	6928447.0	18.5000	0.0000
24.0000	5557264.8	24.0000	-0.0000
29.0000	4575233.3	28.9999	-0.0001
32.5000	4006158.1	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 = -1.017395e+000
h = 1.473484e-001
i = -4.547211e-004
j = 5.676162e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 4.4273e-007

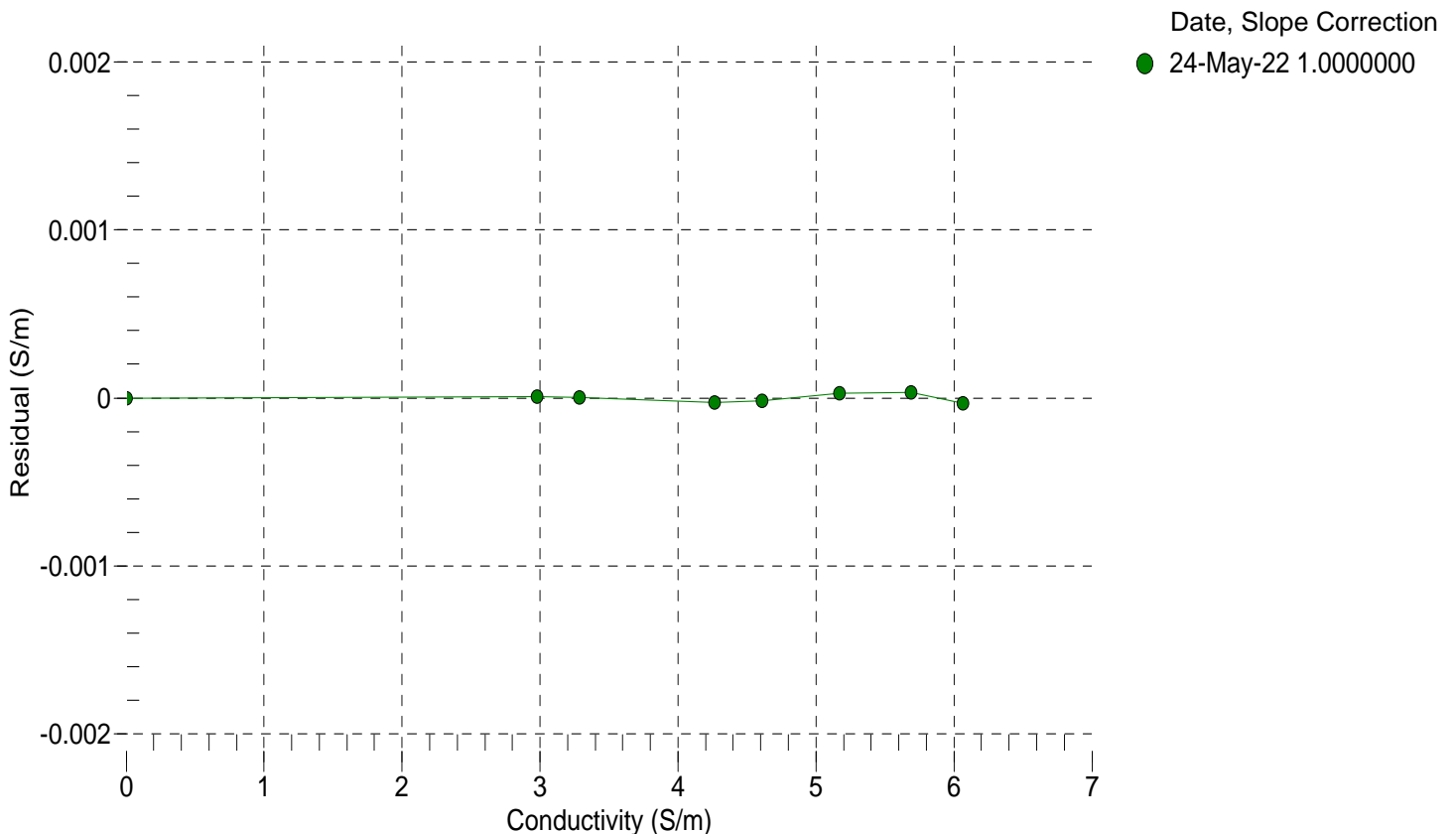
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2634.86	0.00000	0.00000
1.0000	34.8235	2.97652	5220.95	2.97653	0.00001
4.5000	34.8044	3.28371	5417.49	3.28372	0.00000
15.0000	34.7642	4.26590	6002.01	4.26587	-0.00003
18.5000	34.7560	4.61123	6194.13	4.61122	-0.00002
24.0000	34.7472	5.16948	6492.35	5.16951	0.00003
29.0000	34.7416	5.69146	6758.90	5.69149	0.00003
32.5000	34.7355	6.06349	6942.38	6.06346	-0.00003

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

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

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

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





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CALIBRATION DATE: 11-May-22

SBE 41 PRESSURE CALIBRATION DATA
10153 psia S/N 5831381

COEFFICIENTS:

PA0 =	8.553887e-002	PTCA0 =	3.770530e+004
PA1 =	1.335494e-003	PTCA1 =	-8.586745e+001
PA2 =	4.457739e-012	PTCA2 =	4.210916e+000
PTHA0 =	3.080435e+002	PTCB0 =	1.012777e+002
PTHA1 =	-8.865641e-005	PTCB1 =	-1.376581e-003
PTHA2 =	3.101110e-012	PTCB2 =	0.000000e+000

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)
14.59	49237.4	3720711.4	15.41	0.01	32.50	3548867.20	51023.00
2002.22	1527481.9	3716864.2	2000.03	-0.02	29.00	3600539.40	50396.61
3989.17	2993290.0	3715155.6	3987.23	-0.02	24.00	3676507.20	49714.31
5976.27	4446156.8	3713359.0	5975.81	-0.00	18.50	3760577.40	49219.52
7963.72	5884933.2	3711728.6	7963.66	-0.00	15.00	3814774.60	49039.88
9950.86	7309004.7	3707862.6	9949.38	-0.01	4.50	3976821.40	49008.05
7963.23	5886047.3	3707774.8	7965.20	0.02	1.00	4032014.80	49307.05
5975.58	4447382.5	3707489.8	5977.47	0.02			
3988.55	2994837.5	3707129.4	3989.30	0.01			
1849.71	1410600.8	3707095.0	1842.33	-0.07			
14.58	49237.4	3705576.4	15.28	0.01			

TEMPERATURE (°C)	SPAN
-4.76	101.28
35.41	101.23

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)

● 11-May-22 -0.00

