



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-19377
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2636.37
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	12406094	2000m(2000 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: 19377
CALIBRATION DATE: 24-Jun-23

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

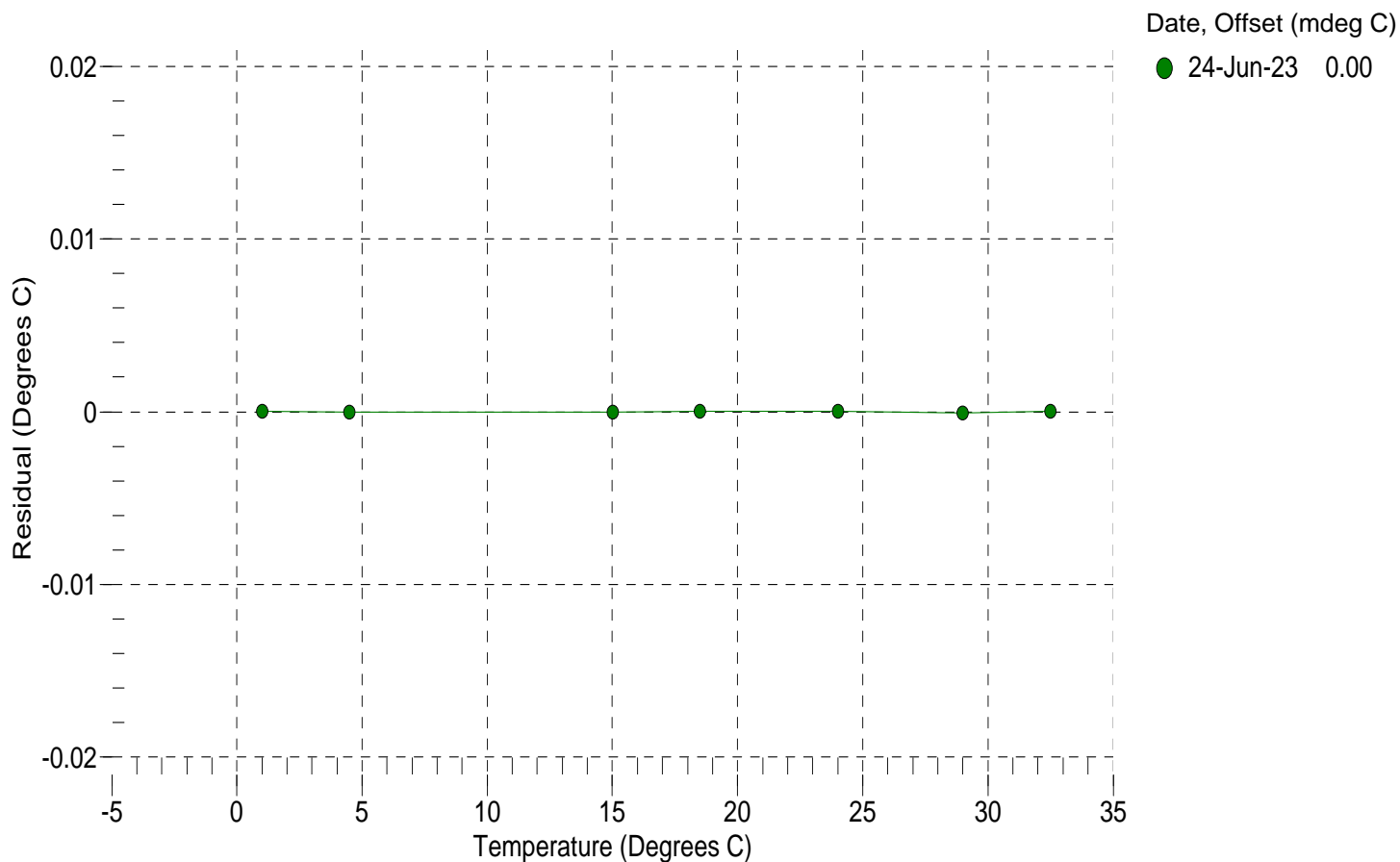
a0 = -9.755057e-004
a1 = 3.048168e-004
a2 = -4.215996e-006
a3 = 1.646176e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0001	14748072.5	1.0001	0.0000
4.5001	12649698.1	4.5001	-0.0000
15.0000	8135420.2	15.0000	-0.0000
18.5000	7064845.0	18.5000	0.0000
24.0000	5692769.0	24.0000	0.0000
29.0001	4705829.0	29.0000	-0.0001
32.5000	4131948.1	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 = -1.001754e+000
h = 1.441613e-001
i = -8.582549e-005
j = 2.841987e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -1.3274e-006

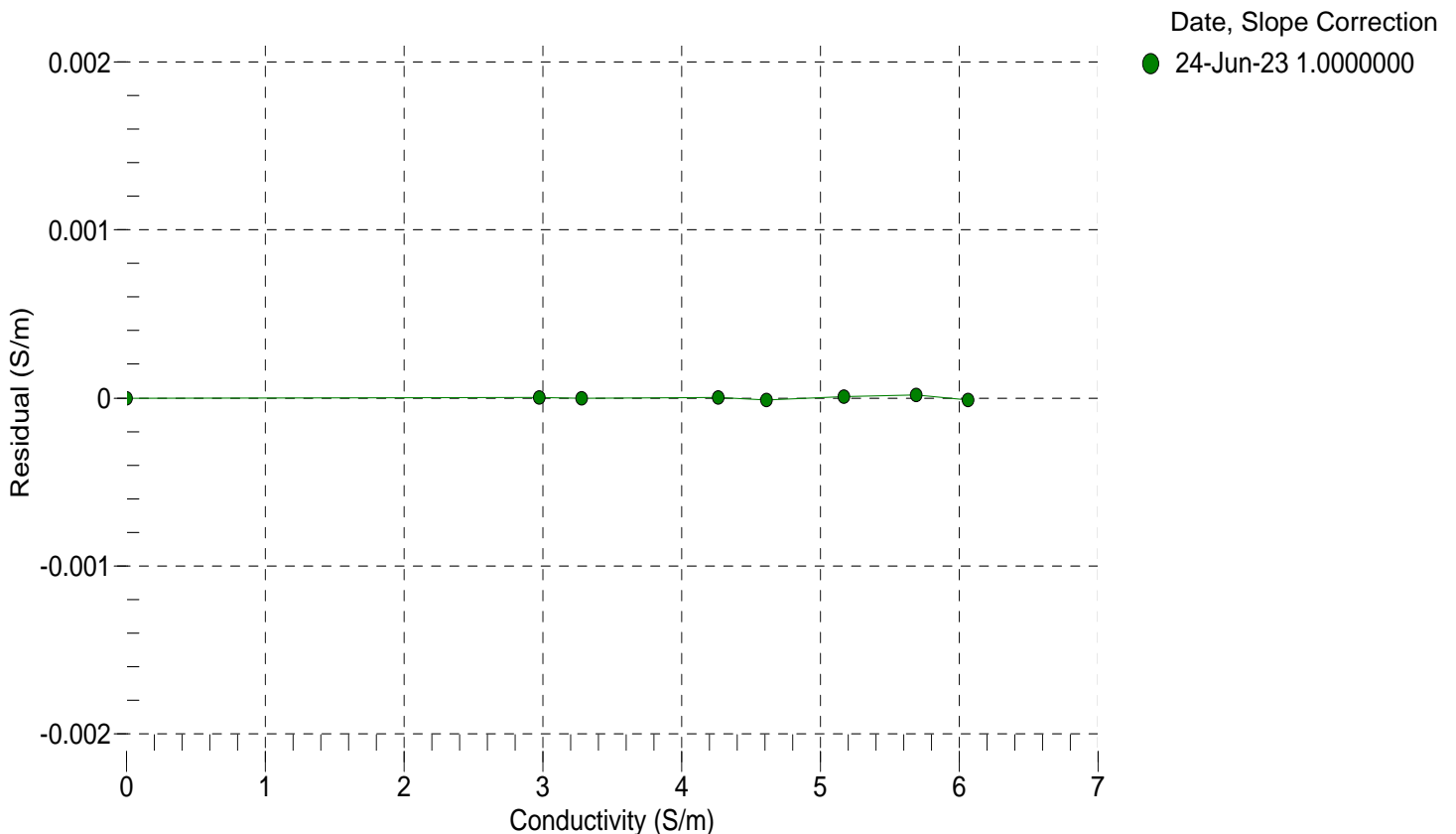
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2636.37	0.00000	0.00000
1.0001	34.8248	2.97663	5247.23	2.97664	0.00000
4.5001	34.8054	3.28381	5445.26	3.28380	-0.00000
15.0000	34.7643	4.26591	6034.21	4.26591	0.00000
18.5000	34.7559	4.61122	6227.79	4.61121	-0.00001
24.0000	34.7466	5.16940	6528.33	5.16941	0.00001
29.0001	34.7405	5.69131	6797.02	5.69133	0.00002
32.5000	34.7354	6.06348	6982.11	6.06346	-0.00001

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

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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SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12406094

COEFFICIENTS:

PA0 =	3.075141e-001	PTCA0 =	-5.504001e+003
PA1 =	3.873269e-004	PTCA1 =	4.174791e+001
PA2 =	-2.645752e-013	PTCA2 =	-2.649921e-001
PTHA0 =	2.881362e+002	PTCB0 =	3.253097e+005
PTHA1 =	-6.173193e-005	PTCB1 =	-7.420685e+000
PTHA2 =	-7.986489e-013	PTCB2 =	7.984666e-002

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)
14.60	31938.0	4092605.2	14.51	-0.00	32.50	3940229.00	33544.40
590.18	1519653.4	4089671.2	590.35	0.01	29.00	3991623.60	33529.27
1166.80	3011991.8	4088388.8	1166.80	-0.00	24.00	4064953.60	33429.71
1742.46	4505640.2	4087285.6	1742.58	0.00	18.50	4145517.00	33193.01
2330.98	6034763.0	4086204.8	2330.81	-0.01	15.00	4196731.40	33019.51
2894.27	7502699.6	4085346.4	2894.34	0.00	4.50	4349842.20	32688.27
2318.27	6002289.2	4085406.0	2318.33	0.00	1.00	4400780.60	32574.17
1737.50	4492240.4	4085598.8	1737.42	-0.00			
1166.00	3009769.6	4085730.8	1165.94	-0.00			
590.01	1518740.4	4085874.0	589.99	-0.00			
14.60	32212.8	4085371.2	14.61	0.00			

TEMPERATURE (°C)	SPAN
2.01	325295.08
20.89	325189.51
33.01	325151.72

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)

● 20-Jun-23 0.00

