



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-17485
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2629.46
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	12105709	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: 17485
CALIBRATION DATE: 23-Apr-22

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

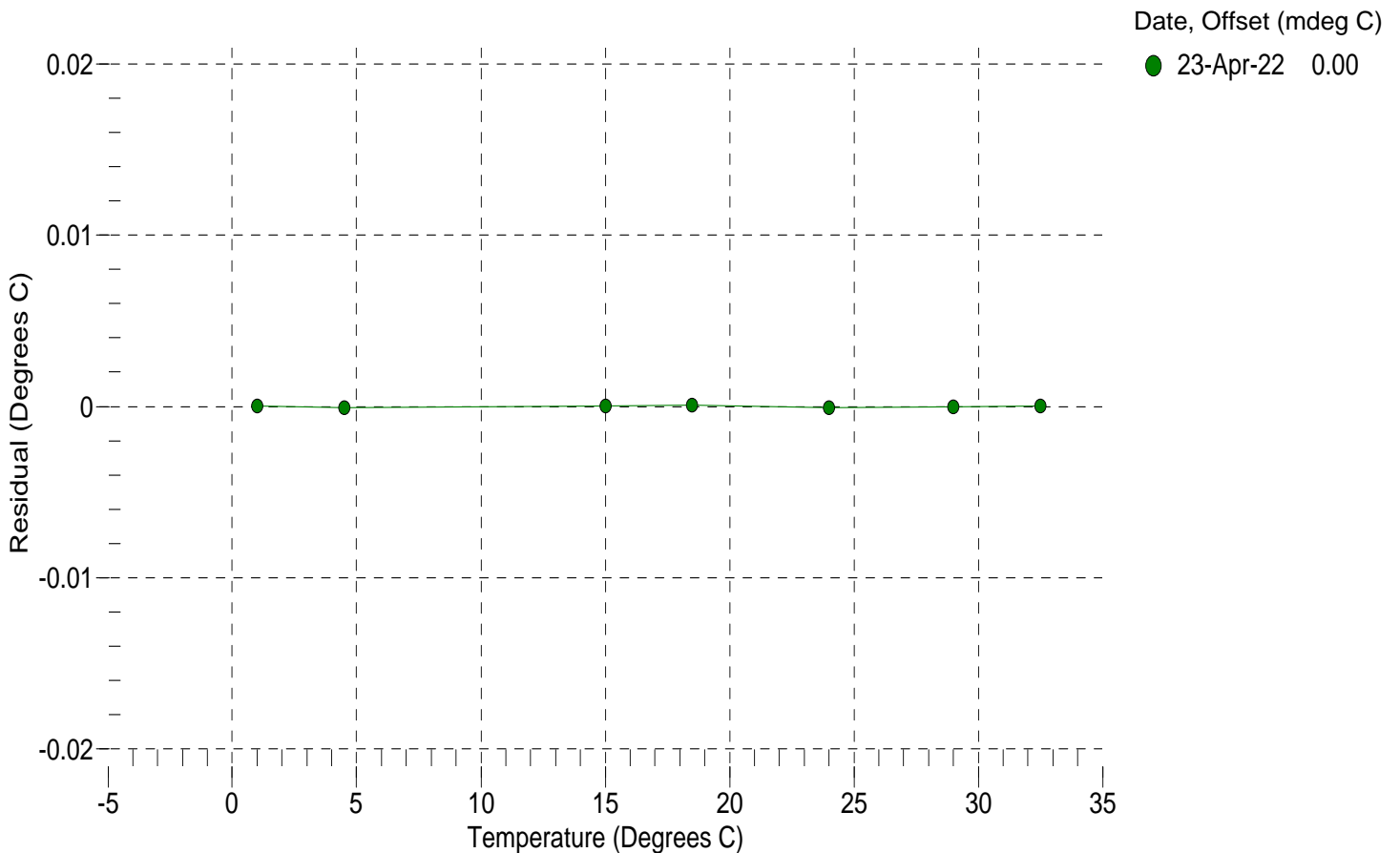
a0 = -8.603265e-004
a1 = 2.897366e-004
a2 = -3.459234e-006
a3 = 1.451907e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15514946.0	1.0000	0.0000
4.5000	13268798.4	4.4999	-0.0001
15.0000	8462548.8	15.0000	0.0000
18.5000	7329393.3	18.5001	0.0001
23.9940	5883369.7	23.9939	-0.0001
29.0000	4844813.0	29.0000	-0.0000
32.5001	4243558.4	32.5001	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





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

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

SENSOR SERIAL NUMBER: 17485
CALIBRATION DATE: 23-Apr-22

SBE 41 CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -1.015612e+000
h = 1.474950e-001
i = -3.607752e-004
j = 4.976934e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 2.8520e-007

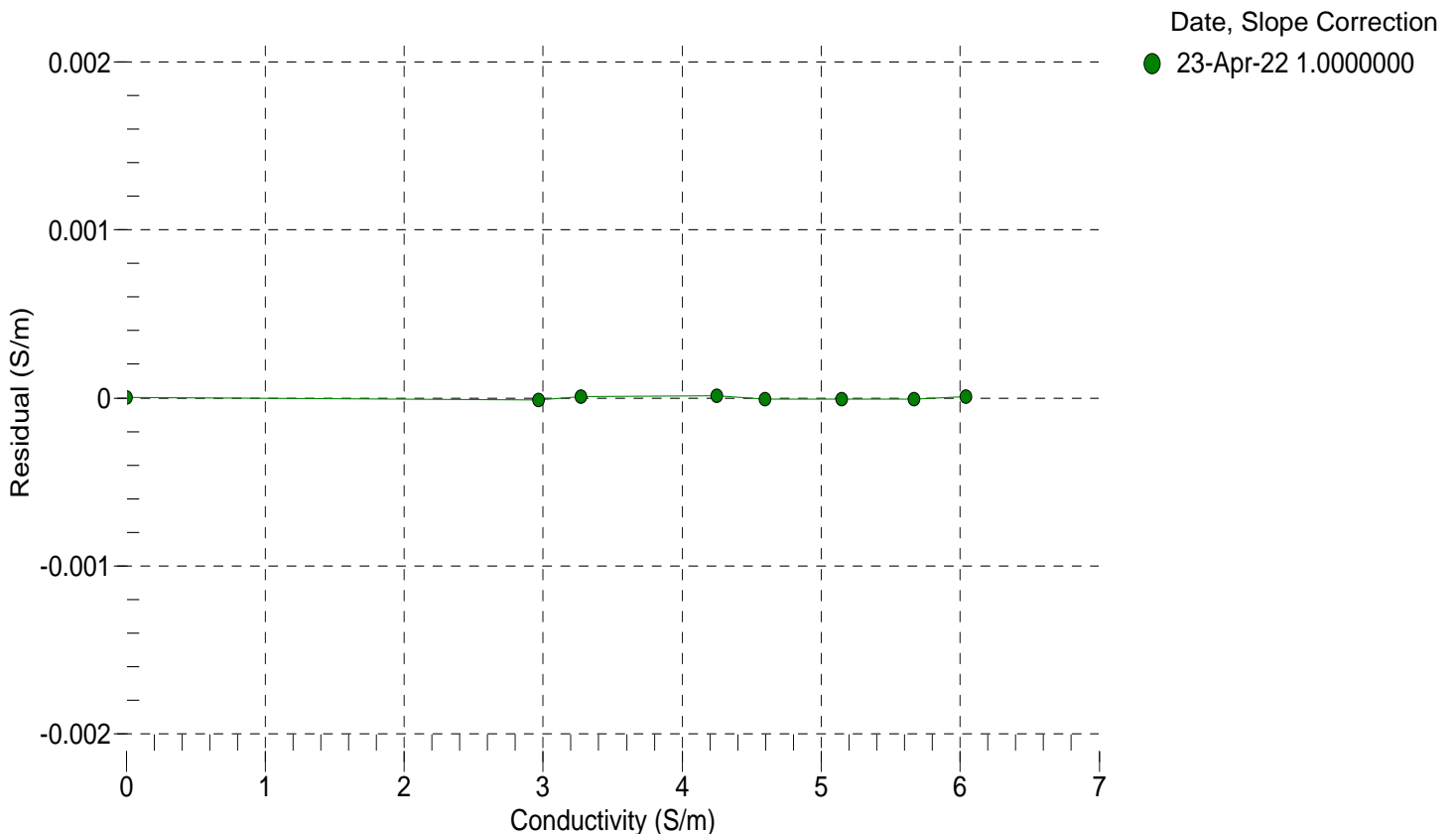
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2629.45	0.00000	0.00000
1.0000	34.6727	2.96486	5204.27	2.96485	-0.00001
4.5000	34.6533	3.27086	5400.03	3.27087	0.00001
15.0000	34.6122	4.24922	5982.29	4.24923	0.00001
18.5000	34.6038	4.59321	6173.67	4.59320	-0.00001
23.9940	34.5944	5.14864	6470.43	5.14863	-0.00001
29.0000	34.5896	5.66935	6736.42	5.66935	-0.00001
32.5001	34.5860	6.04037	6919.50	6.04037	0.00001

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

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





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

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

SENSOR SERIAL NUMBER: 17485
CALIBRATION DATE: 18-Apr-22

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12105709

COEFFICIENTS:

PA0 =	2.071517e-001	PTCA0 =	-1.590304e+003
PA1 =	3.944320e-004	PTCA1 =	7.202914e+001
PA2 =	-2.664912e-013	PTCA2 =	-2.199842e+000
PTHA0 =	3.225213e+002	PTCB0 =	3.186860e+005
PTHA1 =	-6.161026e-005	PTCB1 =	2.173120e+001
PTHA2 =	-1.429630e-012	PTCB2 =	-2.992709e-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)
14.32	34526.3	4426902.0	14.23	-0.00	32.50	4281974.00	36114.90
590.62	1499682.9	4414566.8	590.93	0.01	29.00	4329177.40	36353.62
1167.63	2968055.7	4411370.4	1167.74	0.00	23.99	4396806.20	36594.93
1744.71	4439687.3	4409337.8	1744.67	-0.00	18.50	4470776.40	36694.63
2321.75	5914771.0	4407452.4	2321.80	0.00	15.00	4517819.00	36695.58
2898.62	7392102.5	4405735.4	2898.65	0.00	4.50	4658348.00	36340.56
2321.51	5914341.6	4405079.8	2321.63	0.00	1.00	4704916.20	36219.70
1745.04	4439544.9	4404410.4	1744.61	-0.01	TEMPERATURE (°C) SPAN		
1167.72	2968076.3	4403750.2	1167.74	0.00			
590.54	1498805.4	4402636.2	590.58	0.00			
14.30	34355.3	4401453.2	14.18	-0.00			
					2.39	318736.16	
					21.12	319011.40	
					33.38	319077.87	

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)

● 18-Apr-22 0.00

