



**SEA-BIRD**  
SCIENTIFIC

## SBE41-CP ALACE

### Instrument Configuration

Instrument Serial Number: 41-17515  
Instrument Firmware Version: 7.2.5  
Zero Conductivity Frequency: 2636.50  
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	12078883	2000m(2000 dBar)



Sea-Bird Scientific  
13431 NE 20<sup>th</sup> Street  
Bellevue, WA 98005  
USA

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

SENSOR SERIAL NUMBER: 17515  
CALIBRATION DATE: 24-Apr-22

SBE 41 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

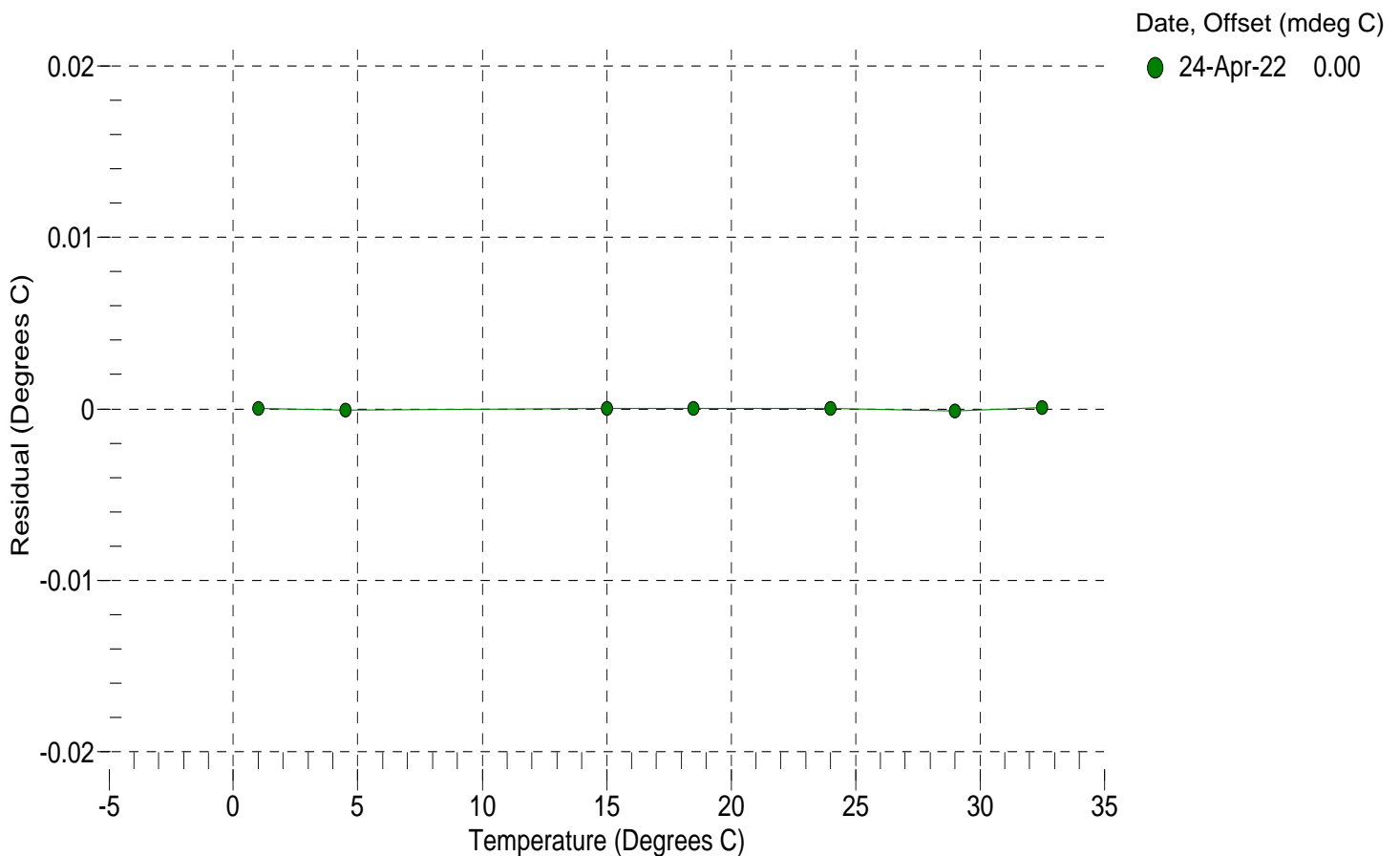
a0 = -8.589942e-004  
a1 = 2.884318e-004  
a2 = -3.390405e-006  
a3 = 1.439281e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15895179.0	1.0000	0.0000
4.5000	13594838.6	4.4999	-0.0001
15.0000	8671895.6	15.0000	0.0000
18.5000	7511078.1	18.5000	0.0000
23.9940	6029591.2	23.9940	0.0000
29.0001	4965515.3	29.0000	-0.0001
32.5000	4349435.8	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





Sea-Bird Scientific  
13431 NE 20<sup>th</sup> Street  
Bellevue, WA 98005  
USA

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

SENSOR SERIAL NUMBER: 17515  
CALIBRATION DATE: 24-Apr-22

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

COEFFICIENTS:

g = -1.024291e+000  
h = 1.476860e-001  
i = -2.282972e-004  
j = 3.922414e-005

CPcor = -9.5700e-008  
CTcor = 3.2500e-006  
WBOTC = -2.8444e-007

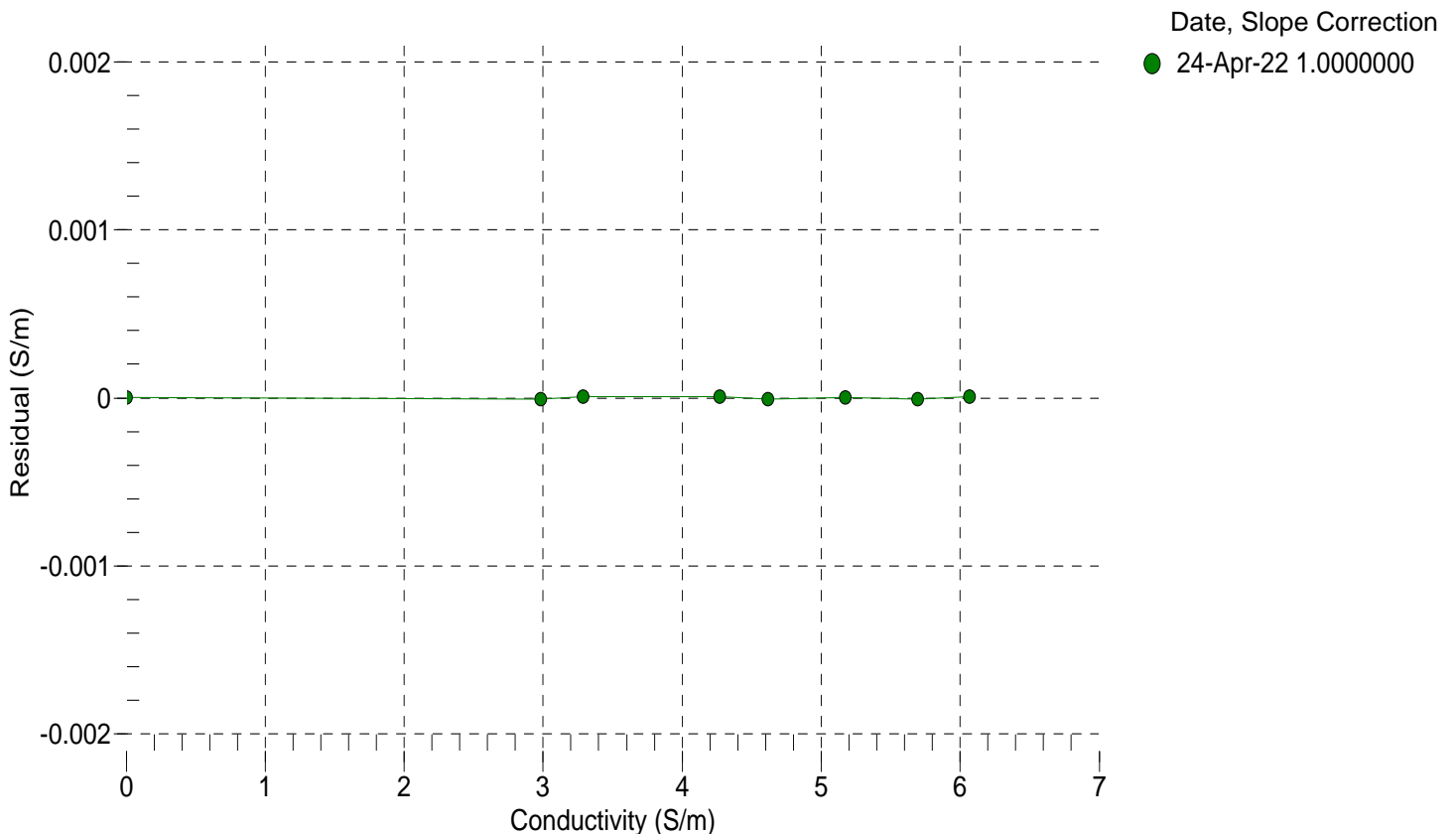
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2636.50	0.00000	0.00000
1.0000	34.8671	2.97989	5209.20	2.97989	-0.00001
4.5000	34.8472	3.28735	5404.86	3.28736	0.00001
15.0000	34.8041	4.27027	5986.84	4.27028	0.00001
18.5000	34.7944	4.61578	6178.12	4.61577	-0.00001
23.9940	34.7830	5.17360	6474.76	5.17360	0.00000
29.0001	34.7749	5.69631	6740.56	5.69630	-0.00001
32.5000	34.7682	6.06855	6923.44	6.06856	0.00001

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

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

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

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





Sea-Bird Scientific  
13431 NE 20<sup>th</sup> Street  
Bellevue, WA 98005  
USA

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

SENSOR SERIAL NUMBER: 17515  
CALIBRATION DATE: 27-Apr-22

SBE 41 PRESSURE CALIBRATION DATA  
2900 psia S/N 12078883

#### COEFFICIENTS:

PA0 =	1.947249e-001	PTCA0 =	-4.017650e+003
PA1 =	3.940842e-004	PTCA1 =	3.605284e+001
PA2 =	-2.818092e-013	PTCA2 =	-6.060176e-001
PTHA0 =	3.249559e+002	PTCB0 =	3.193493e+005
PTHA1 =	-6.269062e-005	PTCB1 =	3.353460e+001
PTHA2 =	-1.310504e-012	PTCB2 =	-5.054278e-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	32955.7	4430429.0	14.55	-0.00	32.50	4281749.80	34421.60
592.60	1503834.4	4428985.4	592.67	0.00	29.00	4329185.40	34499.73
1170.76	2977867.7	4428331.8	1170.82	0.00	23.99	4396711.80	34484.70
1748.90	4454931.1	4427666.6	1748.93	0.00	18.50	4470490.60	34382.11
2327.06	5935256.7	4427069.0	2327.08	0.00	15.00	4517635.00	34285.59
2905.20	7418661.4	4426550.4	2905.20	0.00	4.50	4658070.00	34095.78
2326.98	5934942.4	4427043.4	2326.96	-0.00	1.00	4704851.40	33962.52
1749.18	4455557.6	4427518.0	1749.17	-0.00			
1170.87	2977745.0	4428029.2	1170.77	-0.00			
592.28	1502718.9	4428494.4	592.24	-0.00			
14.56	32998.3	4428911.0	14.56	0.00			

TEMPERATURE (°C)	SPAN
2.39	319426.58
21.23	319833.42
33.32	319905.58

y = thermistor output (counts)

t = PTHA0 + PTHA1 \* y + PTHA2 \* y<sup>2</sup>

x = instrument output - PTCA0 - PTCA1 \* t - PTCA2 \* t<sup>2</sup>

n = x \* PTCB0 / (PTCB0 + PTCB1 \* t + PTCB2 \* t<sup>2</sup>)

pressure (PSIA) = PA0 + PA1 \* n + PA2 \* n<sup>2</sup>

Residual (%FSR) = (computed pressure - true pressure) \* 100 / Full Scale Range

Date, Offset (%FSR)

● 27-Apr-22 -0.00

