



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-14216
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2599.42
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	11827295	2000m(2000 dBar)



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www.seabird.com

SENSOR SERIAL NUMBER: 14216
CALIBRATION DATE: 20-Apr-21

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

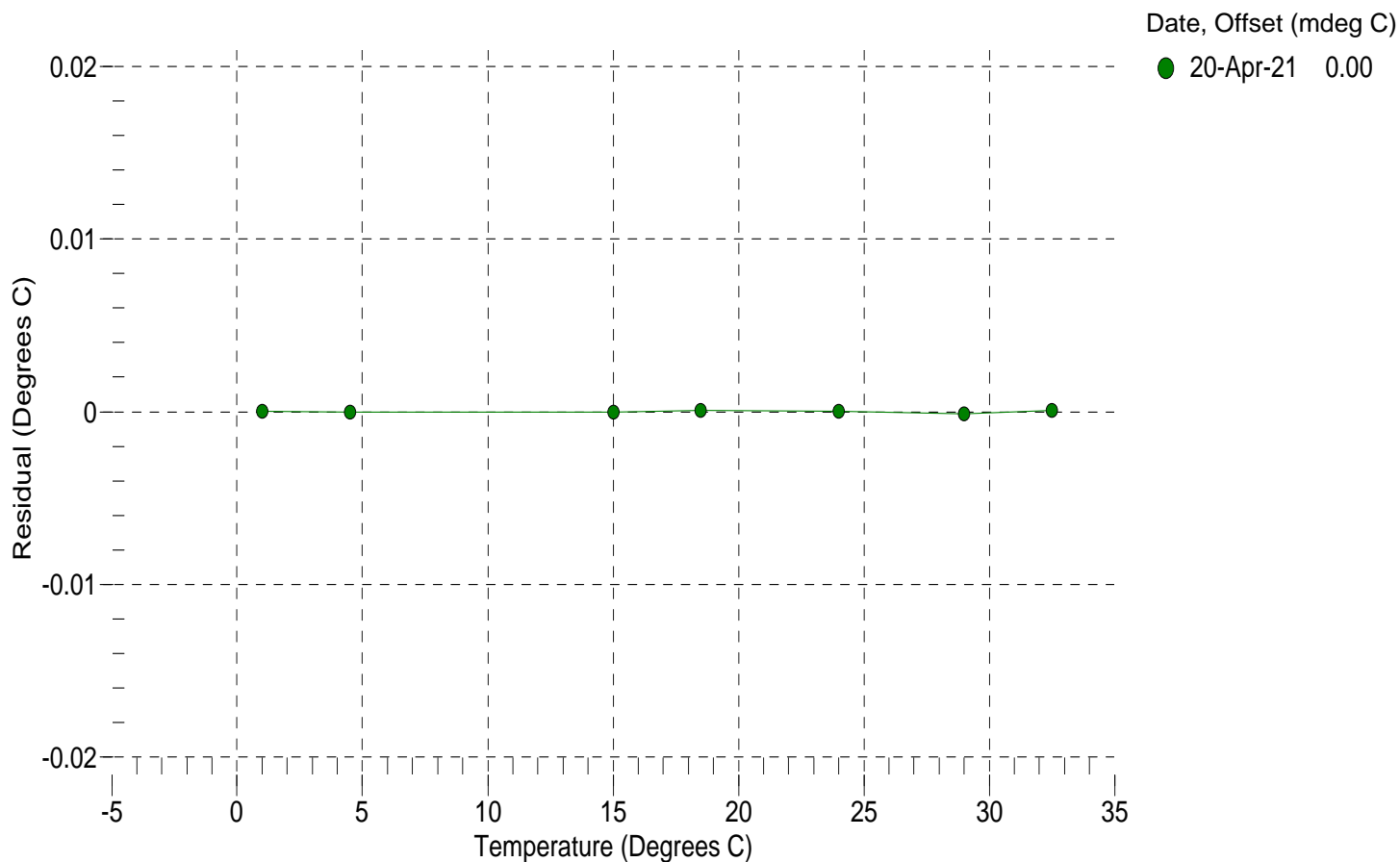
a0 = -8.854383e-004
a1 = 2.958349e-004
a2 = -3.860168e-006
a3 = 1.536747e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15281868.3	1.0000	0.0000
4.5000	13067233.8	4.5000	-0.0000
15.0001	8329819.3	15.0001	-0.0000
18.5000	7213274.2	18.5001	0.0001
23.9940	5788703.1	23.9940	0.0000
29.0000	4765855.2	28.9999	-0.0001
32.5000	4173772.0	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 = -1.027116e+000
h = 1.526882e-001
i = -4.029739e-004
j = 5.437691e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 2.2439e-007

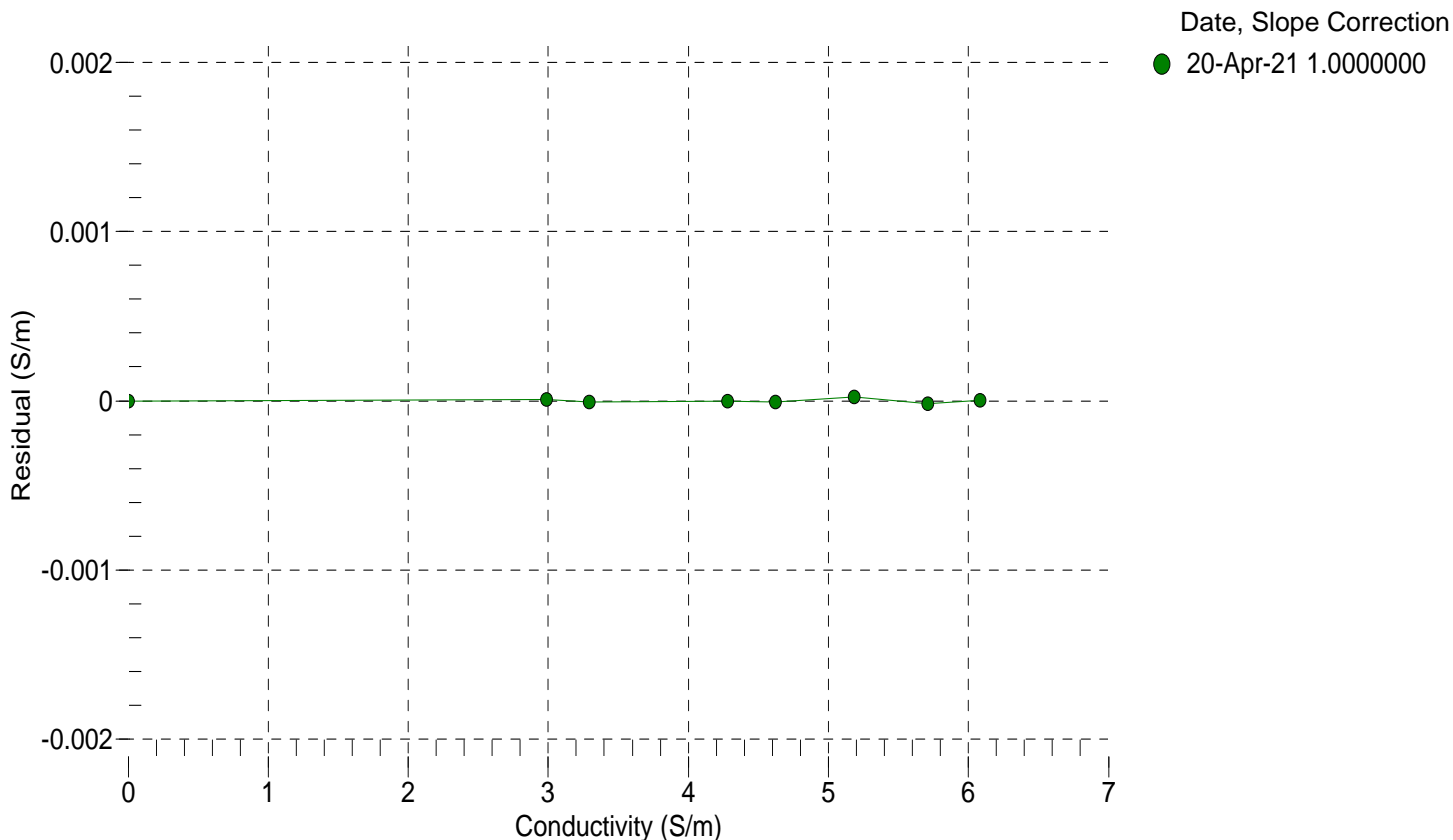
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
0.0000	0.0000	0.00000	2599.42	0.00000	0.00000
1.0000	34.9382	2.98539	5137.02	2.98540	0.00001
4.5000	34.9186	3.29342	5330.00	3.29342	-0.00001
15.0001	34.8772	4.27830	5904.10	4.27830	-0.00000
18.5000	34.8680	4.62449	6092.77	4.62448	-0.00001
23.9940	34.8579	5.18351	6385.36	5.18353	0.00002
29.0000	34.8522	5.70754	6647.57	5.70752	-0.00002
32.5000	34.8475	6.08081	6828.02	6.08082	0.00000

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

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

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: 16-Apr-21

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11827295

COEFFICIENTS:

PA0 =	-1.409659e-001	PTCA0 =	6.842316e+003
PA1 =	3.930734e-004	PTCA1 =	1.882475e+001
PA2 =	-2.786084e-013	PTCA2 =	-1.658152e+000
PTHA0 =	2.951101e+002	PTCB0 =	3.098991e+005
PTHA1 =	-6.172258e-005	PTCB1 =	7.238586e+000
PTHA2 =	-9.323480e-013	PTCB2 =	1.864101e-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)
14.61	44067.6	4171032.2	14.62	0.00	32.50	4011702.40	44409.50
591.13	1514192.3	4167527.2	591.40	0.01	29.00	4061958.40	44782.68
1168.28	2987843.3	4166059.4	1168.36	0.00	23.99	4134295.40	45164.25
1745.29	4464506.6	4164520.0	1745.27	-0.00	18.50	4213428.80	45354.51
2322.17	5944511.7	4162666.2	2322.26	0.00	15.00	4263679.80	45449.96
2899.12	7427094.0	4161385.2	2899.04	-0.00	4.50	4413851.00	45668.09
2322.18	5944460.4	4161221.2	2322.23	0.00	1.00	4464117.60	45613.61
1745.37	4464903.8	4160729.2	1745.41	0.00			
1168.22	2986827.3	4160499.2	1167.94	-0.01	TEMPERATURE (°C) SPAN		
591.12	1513039.6	4160301.0	590.95	-0.01	1.69	309911.86	
14.61	43942.0	4157465.0	14.59	-0.00	20.53	310126.29	
					32.84	310337.96	

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)

● 16-Apr-21 -0.00

