



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-14431
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2622.75
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	11896043	2000m(2000 dBar)



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www.seabird.com

SENSOR SERIAL NUMBER: 14431
CALIBRATION DATE: 05-Jun-21

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

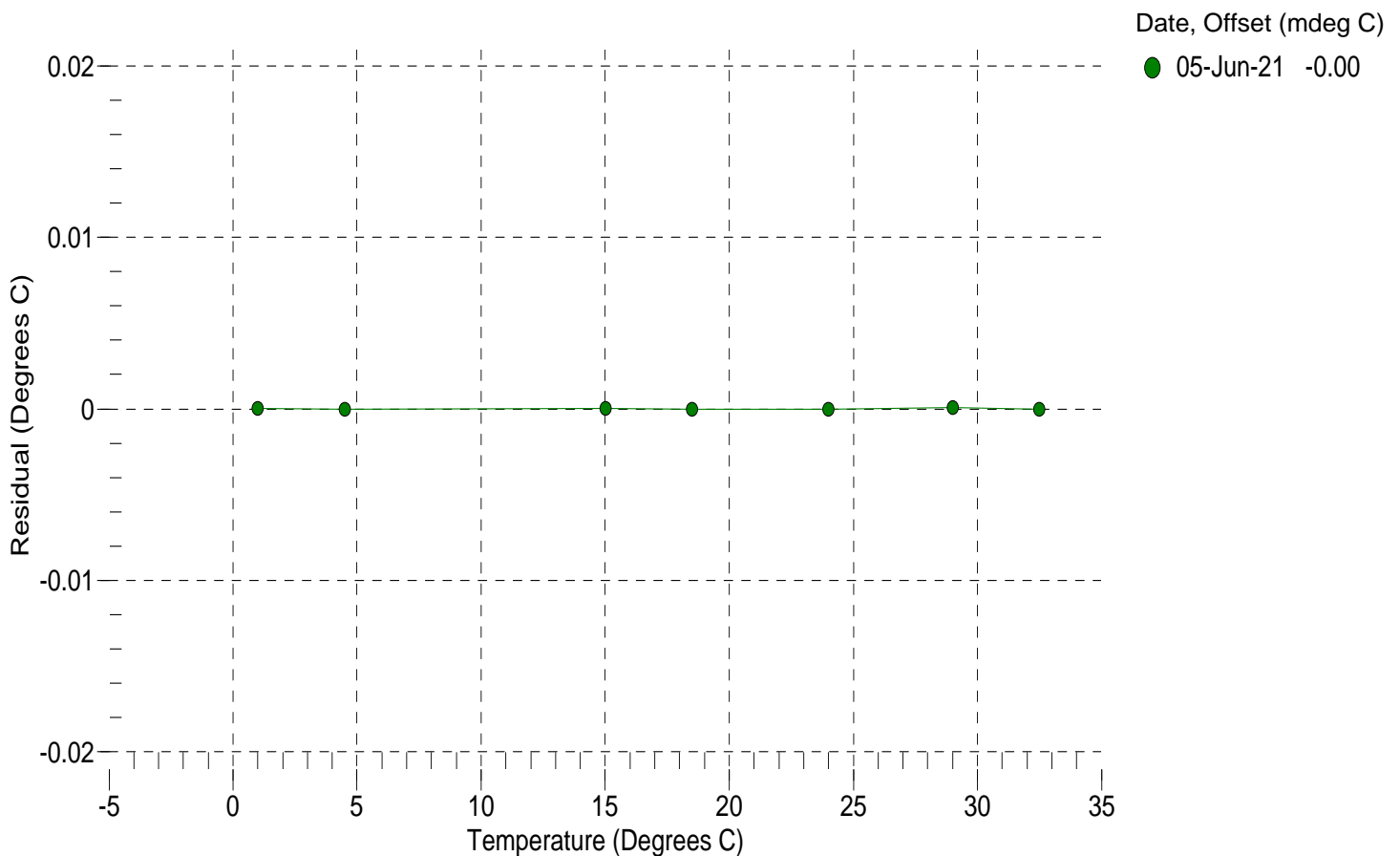
a0 = -9.295911e-004
a1 = 3.042457e-004
a2 = -4.397140e-006
a3 = 1.650774e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15299692.5	1.0000	0.0000
4.5000	13082524.2	4.5000	-0.0000
15.0000	8339568.0	15.0000	0.0000
18.5000	7221695.7	18.5000	-0.0000
23.9940	5795408.9	23.9940	-0.0000
29.0000	4771304.7	29.0001	0.0001
32.5000	4178575.6	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 = -1.031940e+000
h = 1.507221e-001
i = -4.150136e-004
j = 5.548491e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 5.7186e-007

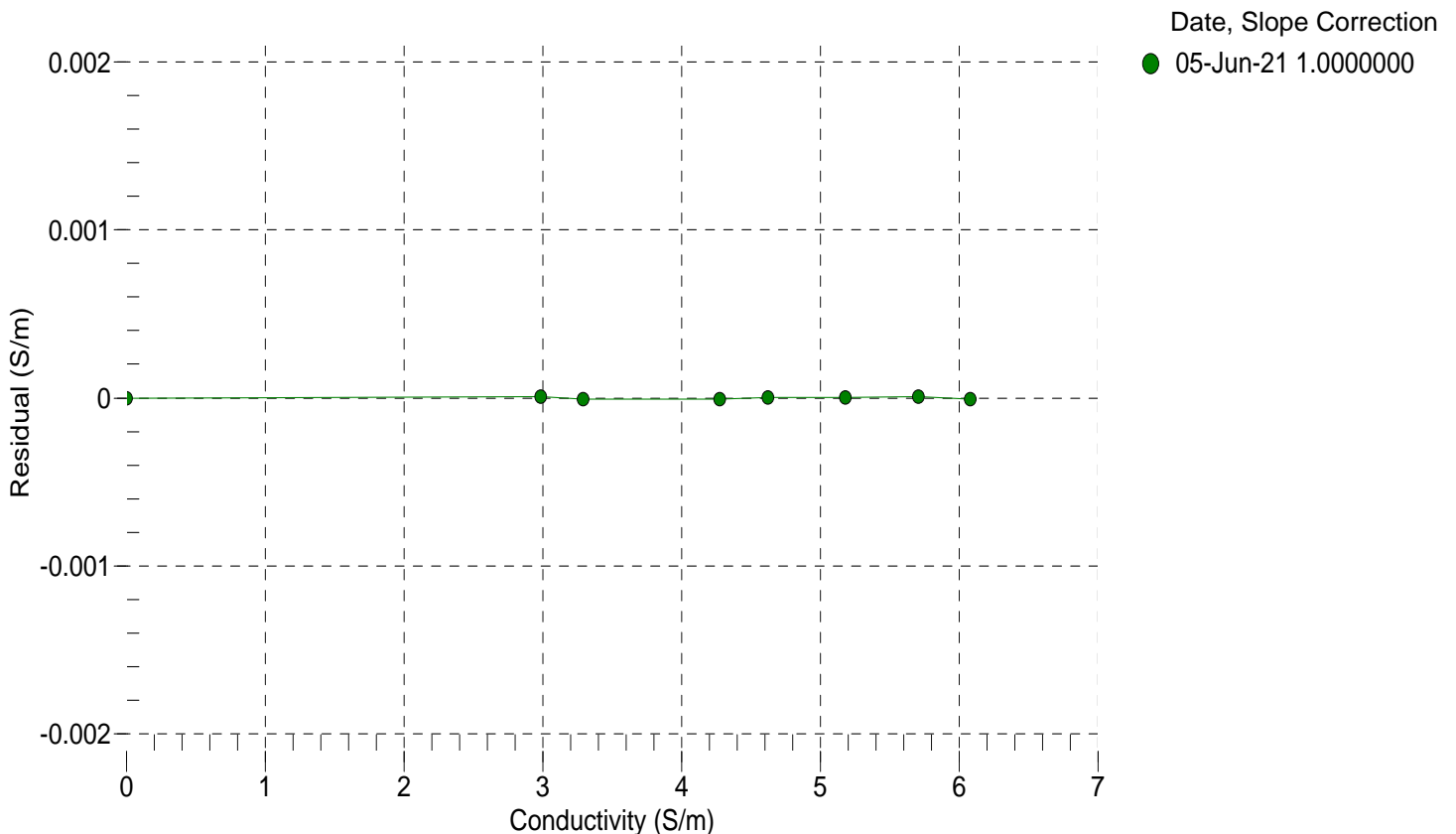
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2622.75	0.00000	0.00000
1.0000	34.9272	2.98454	5173.58	2.98455	0.00001
4.5000	34.9084	3.29256	5367.71	3.29255	-0.00001
15.0000	34.8681	4.27729	5945.17	4.27728	-0.00001
18.5000	34.8599	4.62353	6135.00	4.62353	0.00000
23.9940	34.8515	5.18266	6429.39	5.18266	0.00000
29.0000	34.8473	5.70682	6693.25	5.70683	0.00001
32.5000	34.8441	6.08029	6874.84	6.08028	-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





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CALIBRATION DATE: 02-Jun-21

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11896043

COEFFICIENTS:

PA0 =	6.199862e-001	PTCA0 =	6.010113e+003
PA1 =	3.932546e-004	PTCA1 =	1.390957e+002
PA2 =	-2.733851e-013	PTCA2 =	-3.064242e+000
PTHA0 =	3.181201e+002	PTCB0 =	3.216089e+005
PTHA1 =	-6.260920e-005	PTCB1 =	1.013493e+001
PTHA2 =	-1.199456e-012	PTCB2 =	6.487497e-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)
14.47	42858.0	4361281.0	14.48	0.00	32.50	4220623.60	43955.40
591.06	1512045.9	4358923.4	591.16	0.00	29.00	4268780.60	44183.84
1167.88	2984522.2	4357789.8	1167.94	0.00	23.99	4337477.80	44342.41
1744.79	4460214.3	4356792.4	1744.80	0.00	18.50	4412475.00	44241.95
2321.66	5939090.1	4355792.6	2321.70	0.00	15.00	4460355.20	44064.80
2898.51	7420764.9	4354635.0	2898.50	-0.00	4.50	4603134.40	43224.95
2321.58	5938832.0	4354682.2	2321.59	0.00	1.00	4650773.60	42891.50
1745.08	4460806.7	4354539.8	1745.02	-0.00	<div>TEMPERATURE (°C) SPAN</div> <div>2.01 321629.51</div> <div>20.62 321845.45</div> <div>32.91 322012.65</div>		
1167.74	2983780.3	4354524.6	1167.64	-0.00			
590.79	1511006.1	4354533.4	590.74	-0.00			
14.47	42755.2	4353048.6	14.44	-0.00			

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)

● 02-Jun-21 -0.00

