



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-17107
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2531.40
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	12058307	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 17107
CALIBRATION DATE: 06-Feb-22

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

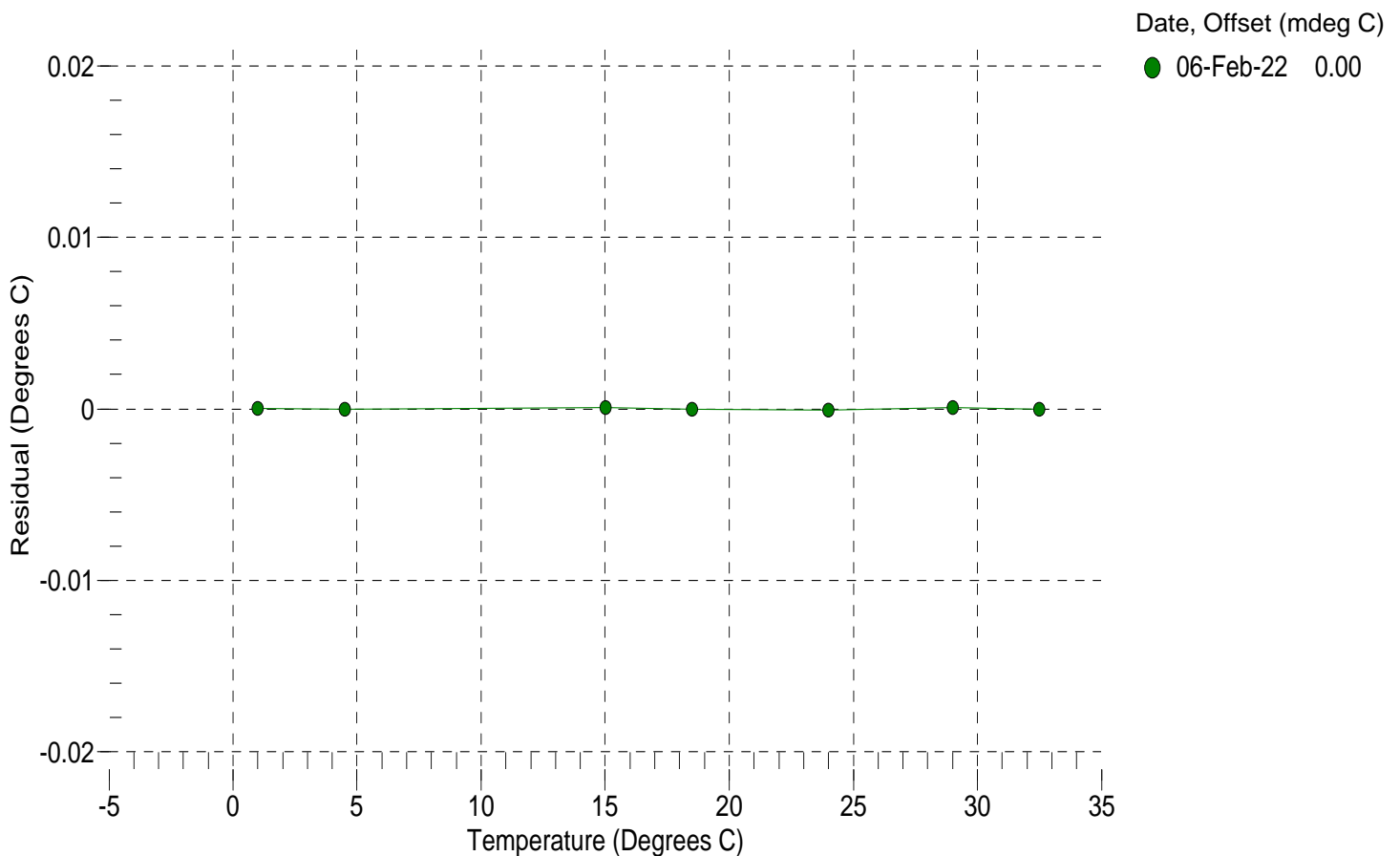
a0 = -8.867458e-004
a1 = 2.955096e-004
a2 = -3.833723e-006
a3 = 1.545640e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15047207.7	1.0000	0.0000
4.5000	12874463.8	4.5000	-0.0000
15.0000	8221138.7	15.0001	0.0001
18.5000	7123055.0	18.5000	-0.0000
24.0000	5719628.5	23.9999	-0.0001
29.0000	4713408.8	29.0001	0.0001
32.5001	4129853.2	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





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

COEFFICIENTS:

g = -1.033612e+000
h = 1.618702e-001
i = -3.575923e-004
j = 5.230476e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 9.8749e-008

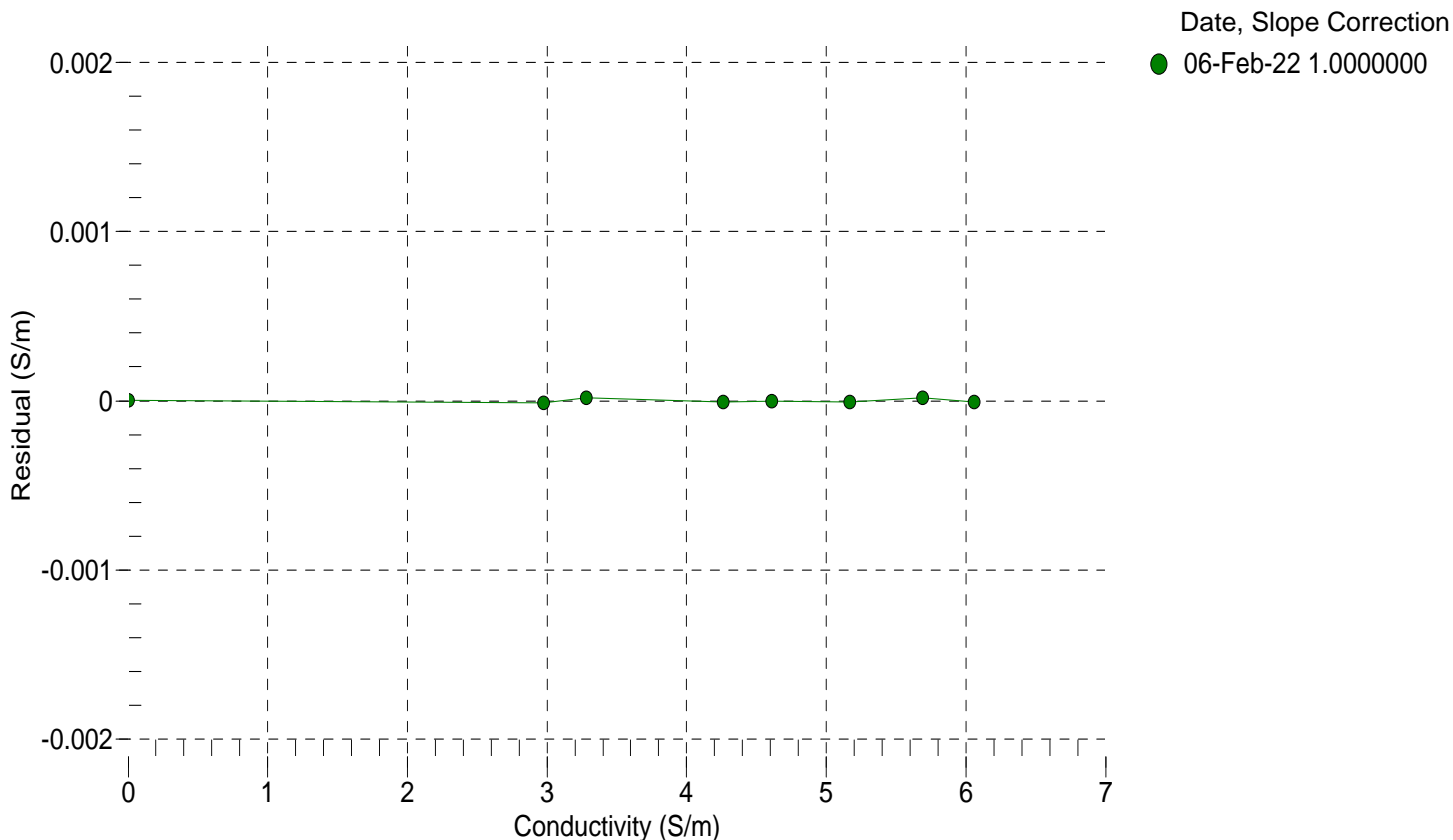
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2531.40	0.00000	0.00000
1.0000	34.8060	2.97517	4983.93	2.97516	-0.00001
4.5000	34.7871	3.28224	5170.81	3.28226	0.00002
15.0000	34.7469	4.26400	5726.79	4.26399	-0.00001
18.5000	34.7385	4.60916	5909.60	4.60916	-0.00000
24.0000	34.7293	5.16711	6193.43	5.16711	-0.00001
29.0000	34.7234	5.68881	6447.23	5.68883	0.00002
32.5001	34.7184	6.06086	6622.09	6.06085	-0.00001

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

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

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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SENSOR SERIAL NUMBER: 17107
CALIBRATION DATE: 04-Feb-22

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12058307

COEFFICIENTS:

PA0 =	3.807108e-001	PTCA0 =	5.899430e+002
PA1 =	3.907605e-004	PTCA1 =	9.798142e+001
PA2 =	-2.572262e-013	PTCA2 =	-2.441883e+000
PTHA0 =	3.288844e+002	PTCB0 =	3.206859e+005
PTHA1 =	-6.193508e-005	PTCB1 =	2.434078e+001
PTHA2 =	-1.495613e-012	PTCB2 =	-3.966259e-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)
14.65	37832.7	4474355.0	14.54	-0.00	32.50	4332190.80	39186.00
592.21	1519774.1	4474818.8	592.41	0.01	29.00	4378899.60	39405.46
1170.36	3004752.0	4474510.2	1170.34	-0.00	24.00	4445410.80	39569.15
1748.48	4492952.2	4474491.6	1748.39	-0.00	18.50	4518419.80	39586.37
2326.70	5984584.3	4474331.4	2326.63	-0.00	15.00	4564818.80	39492.45
2904.71	7479316.7	4474239.6	2904.92	0.01	4.50	4703275.20	38987.55
2326.62	5984121.2	4475068.6	2326.45	-0.01	1.00	4749335.00	38707.58
1748.71	4493256.5	4475839.2	1748.51	-0.01	TEMPERATURE (°C) SPAN		
1170.34	3005301.6	4476748.4	1170.56	0.01			
592.09	1519361.6	4477471.6	592.25	0.01			
14.66	37792.6	4478328.2	14.52	-0.00			
					1.79	320728.33	
					20.96	321021.85	
					32.53	321058.04	

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)

● 04-Feb-22 -0.00

