



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-12929
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2666.96
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	11515292	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 12929
CALIBRATION DATE: 05-Jun-20

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

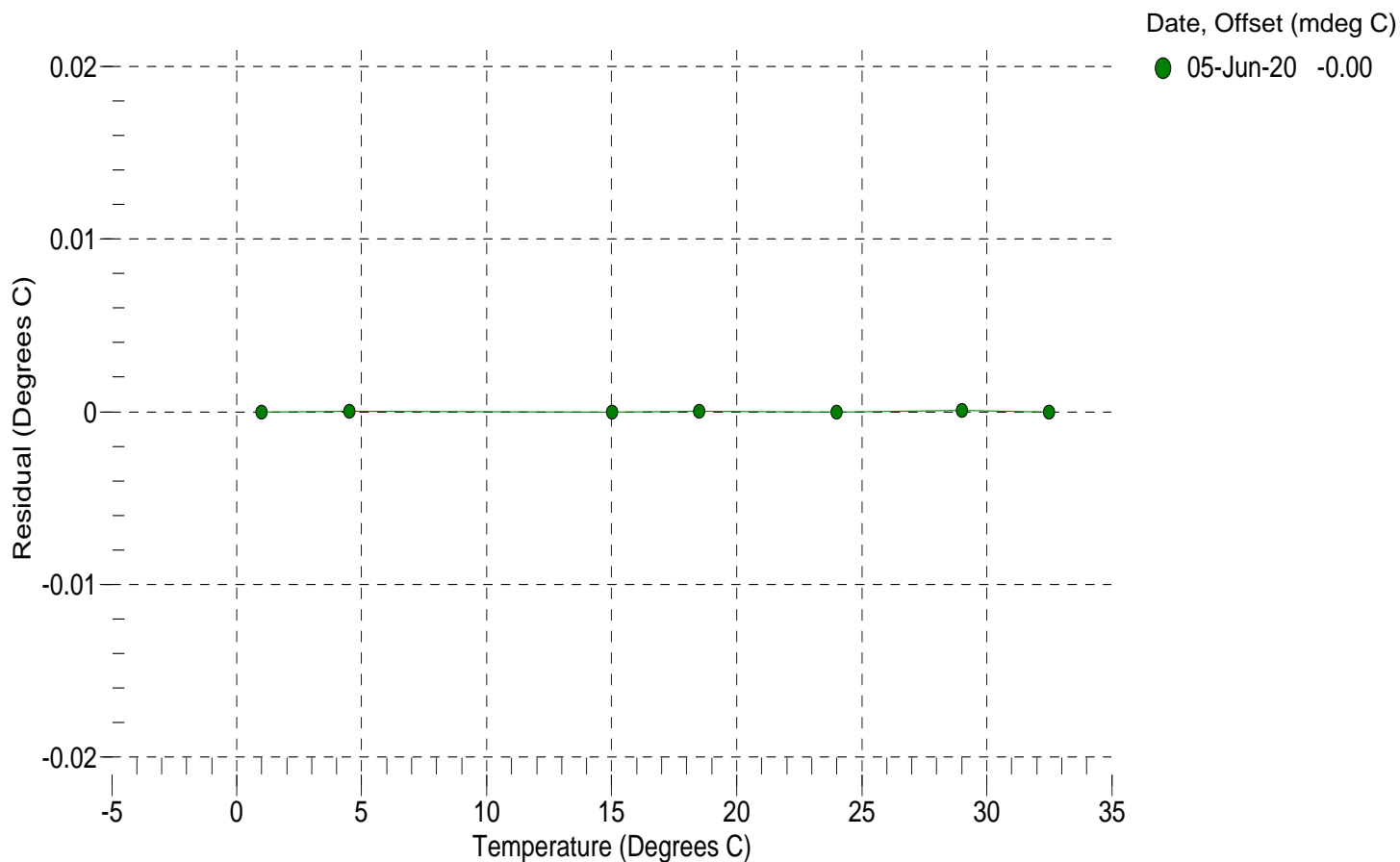
a0 = -8.441897e-004
a1 = 2.887020e-004
a2 = -3.422728e-006
a3 = 1.438215e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15367773.7	1.0000	-0.0000
4.5000	13135712.6	4.5000	0.0000
15.0000	8364693.1	15.0000	-0.0000
18.5000	7241064.3	18.5000	0.0000
23.9940	5808071.8	23.9940	-0.0000
29.0000	4779639.6	29.0001	0.0001
32.5000	4184621.9	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 = -1.028354e+000
h = 1.449516e-001
i = -2.431085e-004
j = 3.877168e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 3.4367e-007

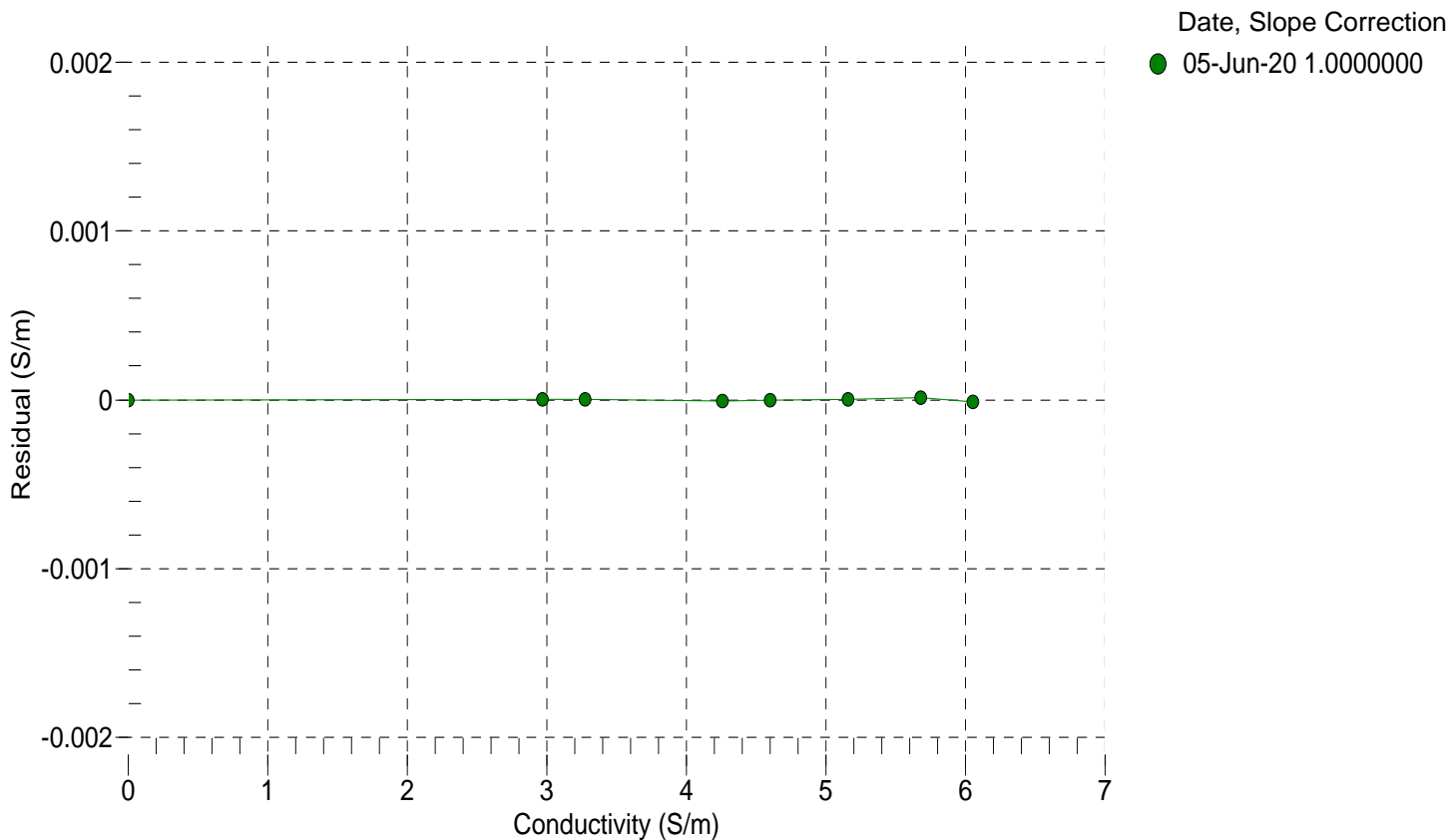
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2666.96	0.00000	0.00000
1.0000	34.7594	2.97156	5256.84	2.97157	0.00000
4.5000	34.7396	3.27820	5453.99	3.27820	0.00000
15.0000	34.6972	4.25855	6040.55	4.25854	-0.00001
18.5000	34.6885	4.60324	6233.43	4.60324	-0.00000
23.9940	34.6792	5.15986	6532.57	5.15987	0.00000
29.0000	34.6746	5.68172	6800.77	5.68173	0.00001
32.5000	34.6717	6.05362	6985.42	6.05361	-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: 29-May-20

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11515292

COEFFICIENTS:

PA0 =	2.811787e-001	PTCA0 =	-2.364463e+003
PA1 =	3.876145e-004	PTCA1 =	4.128639e+001
PA2 =	-2.685796e-013	PTCA2 =	-3.510126e-001
PTHA0 =	3.150827e+002	PTCB0 =	3.105852e+005
PTHA1 =	-6.129904e-005	PTCB1 =	1.776564e+001
PTHA2 =	-1.346432e-012	PTCB2 =	-2.623573e-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)
14.47	35128.7	4369608.8	14.52	0.00	32.50	4218944.00	36946.30
589.98	1522755.3	4363921.0	590.03	0.00	29.00	4267055.20	36978.84
1165.53	3013527.3	4360442.0	1165.56	0.00	23.99	4335760.00	36903.31
1740.97	4507226.6	4356463.8	1741.02	0.00	18.50	4410911.80	36678.87
2203.00	5499781.3	4355987.0	2122.75	-2.77	15.00	4458755.00	36496.12
2891.94	7503877.0	4353373.8	2891.90	-0.00	4.50	4601548.60	36210.58
2316.53	6004175.7	4351535.2	2316.52	-0.00	1.00	4649057.00	36096.55
1741.11	4507811.1	4349675.0	1741.23	0.00	TEMPERATURE (°C) SPAN		
1165.19	3012278.0	4348302.4	1165.05	-0.00			
589.51	1521108.3	4346980.4	589.37	-0.01			
14.46	35083.8	4341536.8	14.48	0.00			
					1.51	310611.55	
					20.50	310839.16	
					33.98	310885.98	

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)

● 29-May-20 -0.00

