



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-12997
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2703.93
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	11493664	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 12997
CALIBRATION DATE: 30-Jun-20

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

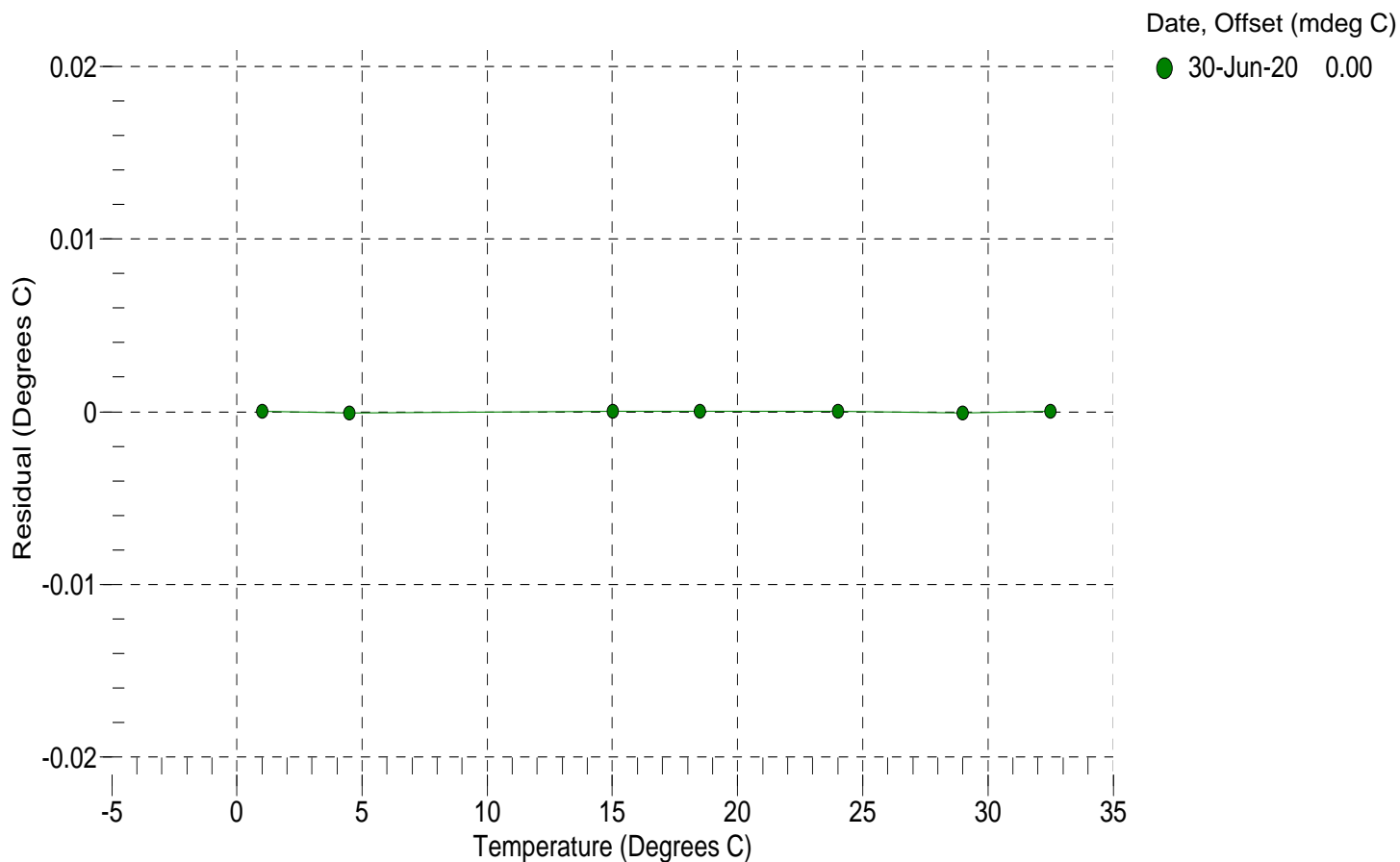
a0 = -8.675574e-004
a1 = 2.906551e-004
a2 = -3.643606e-006
a3 = 1.456190e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	17845595.4	1.0000	0.0000
4.5000	15230690.6	4.4999	-0.0001
15.0000	9656670.3	15.0000	0.0000
18.5000	8347908.3	18.5000	0.0000
23.9999	6680134.3	23.9999	0.0000
29.0001	5488332.7	29.0000	-0.0001
32.5000	4798965.5	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 = -1.003809e+000
h = 1.374335e-001
i = -1.332515e-004
j = 3.047938e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 3.6979e-007

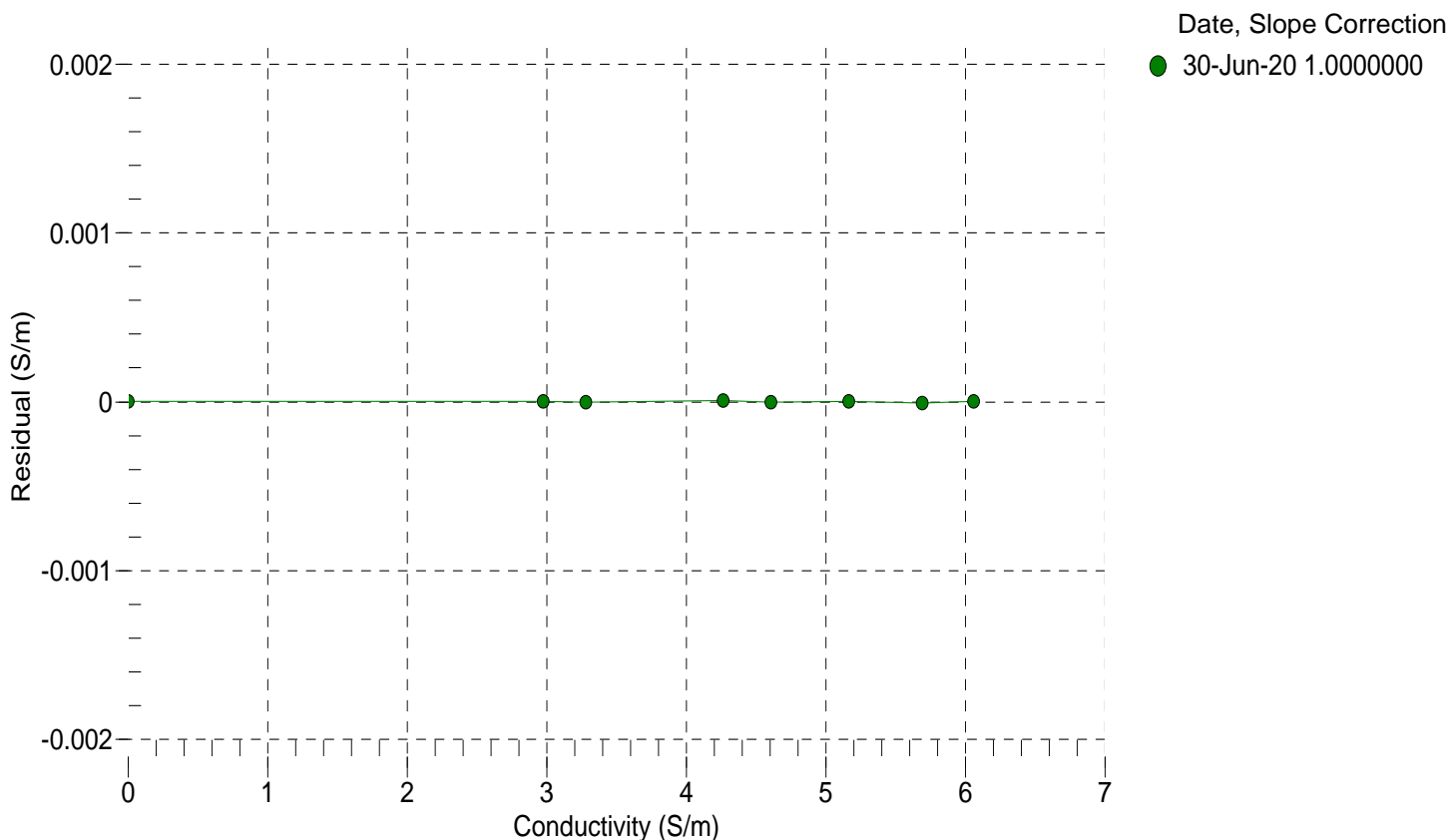
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2703.93	0.00000	0.00000
1.0000	34.8070	2.97525	5377.54	2.97525	0.00000
4.5000	34.7887	3.28238	5580.41	3.28237	-0.00000
15.0000	34.7504	4.26438	6183.77	4.26439	0.00001
18.5000	34.7432	4.60972	6382.10	4.60971	-0.00000
23.9999	34.7359	5.16798	6690.00	5.16798	0.00000
29.0001	34.7328	5.69019	6965.35	5.69018	-0.00001
32.5000	34.7316	6.06289	7155.20	6.06289	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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SENSOR SERIAL NUMBER: 12997
CALIBRATION DATE: 24-Jun-20

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11493664

COEFFICIENTS:

PA0 =	5.078488e-001	PTCA0 =	2.873154e+003
PA1 =	3.877632e-004	PTCA1 =	1.269603e+002
PA2 =	-2.830012e-013	PTCA2 =	-3.035196e+000
PTHA0 =	2.903627e+002	PTCB0 =	3.162951e+005
PTHA1 =	-6.106969e-005	PTCB1 =	-4.742906e+000
PTHA2 =	-9.387455e-013	PTCB2 =	4.582201e-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)
14.49	40422.0	4112961.2	14.55	0.00	32.50	3979065.40	41427.10
591.09	1530151.5	4104633.2	591.29	0.01	29.00	4030068.60	41638.60
1167.41	3021516.5	4103814.0	1167.40	-0.00	24.00	4102858.00	41838.50
1743.58	4516551.3	4102979.8	1743.66	0.00	18.50	4182731.60	41848.60
2319.82	6014997.8	4102256.0	2319.96	0.00	15.00	4233526.60	41716.20
2895.77	7515203.6	4101602.8	2895.66	-0.00	4.50	4385282.60	40983.30
2319.70	6014417.4	4101975.2	2319.73	0.00	1.00	4435797.80	40674.40
1743.88	4517082.9	4102321.0	1743.86	-0.00			
1167.46	3021220.5	4102618.6	1167.28	-0.01	TEMPERATURE (°C) SPAN		
590.97	1528917.2	4102924.6	590.81	-0.01	1.18	316290.15	
14.48	40165.2	4102189.6	14.46	-0.00	20.55	316391.13	
					34.13	316666.98	

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)

● 24-Jun-20 0.00

