



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-9898
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2614.65
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	10650690	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 9898
 CALIBRATION DATE: 02-Feb-18

SBE 41 TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

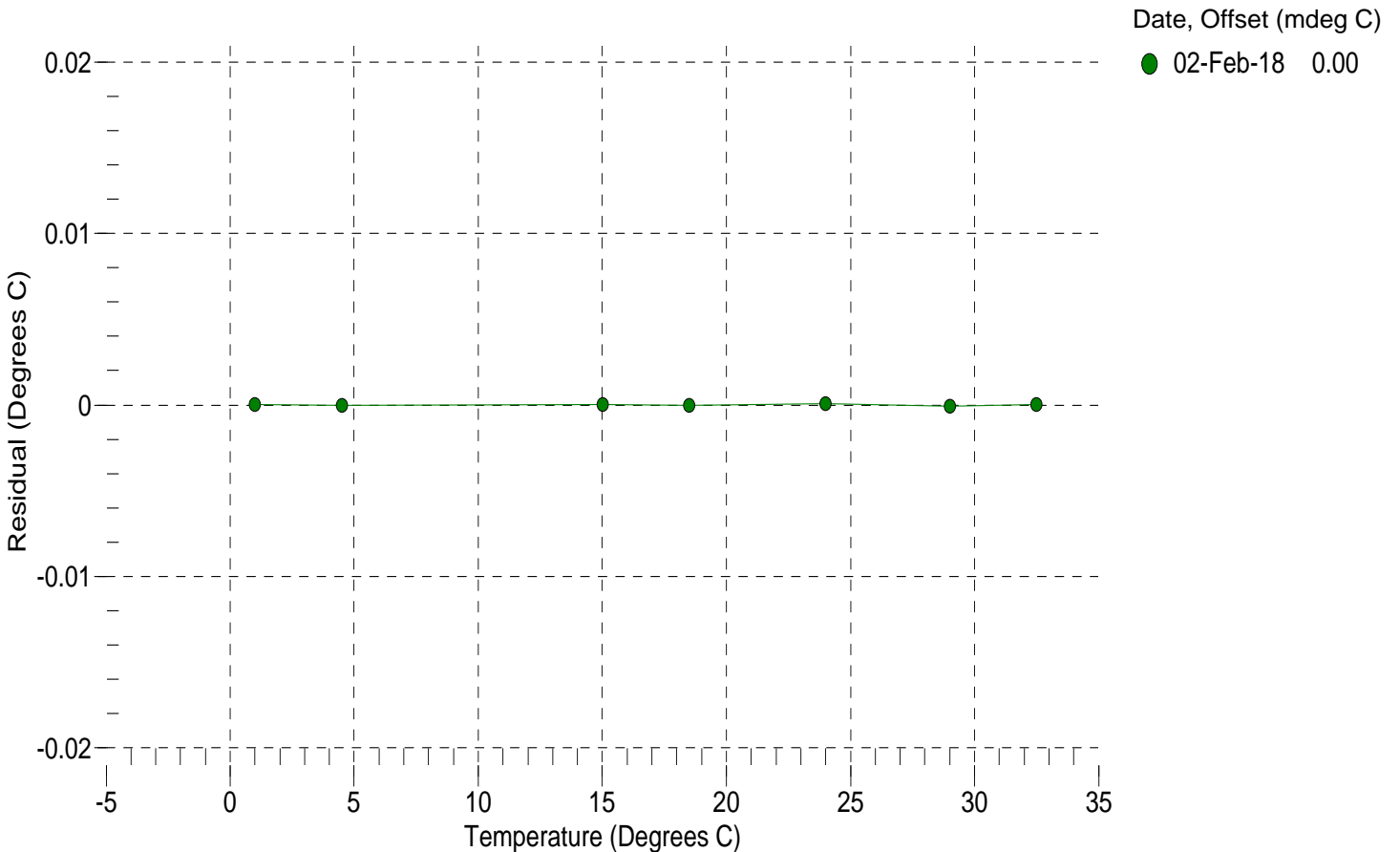
a0 = -8.397389e-004
 a1 = 2.909963e-004
 a2 = -3.710370e-006
 a3 = 1.471310e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	16544736.4	1.0000	0.0000
4.5000	14111327.7	4.5000	-0.0000
15.0000	8930425.9	15.0000	0.0000
18.5000	7715524.5	18.5000	-0.0000
23.9940	6169938.8	23.9941	0.0001
29.0001	5063938.7	29.0000	-0.0001
32.5000	4425472.5	32.5000	0.0000

n = Instrument Output (counts)

$$\text{Temperature ITS-90 (°C)} = 1 / \{ a_0 + a_1[\ln(n)] + a_2[\ln^2(n)] + a_3[\ln^3(n)] \} - 273.15$$

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 = -1.007663e+000 CPcor = -9.5700e-008
 h = 1.480424e-001 CTcor = 3.2500e-006
 i = -3.755035e-004 WBOTC = -7.0110e-007
 j = 4.960199e-005

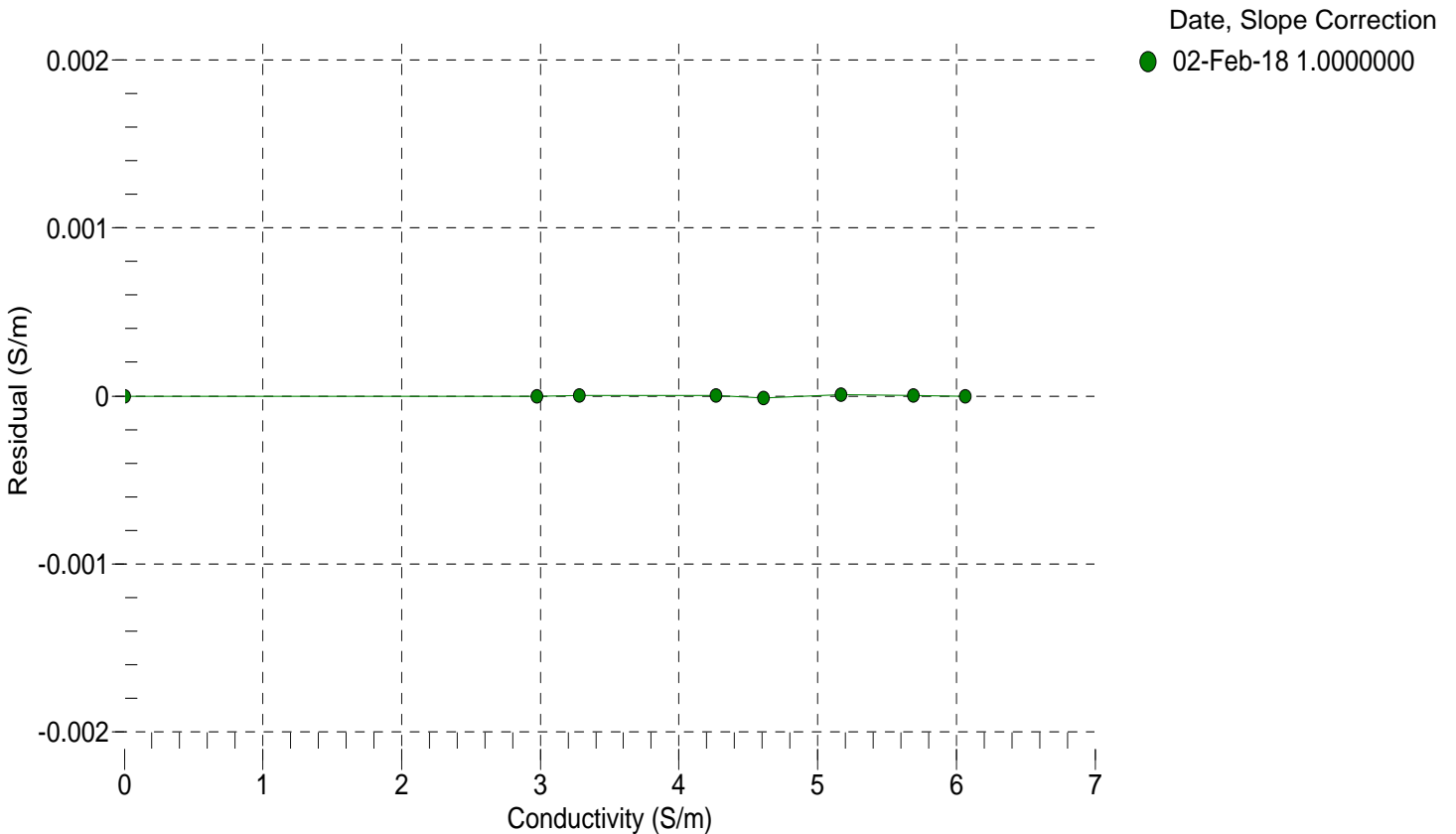
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2614.65	0.00000	0.00000
1.0000	34.8231	2.97649	5198.46	2.97649	-0.00000
4.5000	34.8034	3.28363	5394.60	3.28363	0.00000
15.0000	34.7615	4.26560	5977.94	4.26561	0.00000
18.5000	34.7528	4.61085	6169.65	4.61084	-0.00001
23.9940	34.7433	5.16835	6466.94	5.16836	0.00001
29.0001	34.7377	5.69090	6733.33	5.69090	0.00000
32.5000	34.7334	6.06317	6916.65	6.06316	-0.00000

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

t = temperature (°C); p = pressure (decibars); δ = CTcor; ϵ = 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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SENSOR SERIAL NUMBER: 9898
 CALIBRATION DATE: 31-Jan-18

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 10650690

COEFFICIENTS:

PA0 =	3.869108e-001	PTCA0 =	8.327905e+002
PA1 =	3.905316e-004	PTCA1 =	1.050262e+002
PA2 =	-2.659397e-013	PTCA2 =	-2.690736e+000
PTHA0 =	3.084503e+002	PTCB0 =	2.528187e+001
PTHA1 =	-6.120019e-005	PTCB1 =	-8.250000e-004
PTHA2 =	-1.255343e-012	PTCB2 =	0.000000e+000

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)
14.71	38472.6	4285572.4	14.71	0.00	32.50	4154893.80	39321.00
591.87	1517054.8	4284957.0	591.97	0.00	29.00	4203676.00	39639.24
1169.43	2999149.3	4284268.2	1169.43	0.00	23.99	4273366.00	39878.52
1746.85	4484153.4	4283763.6	1746.86	0.00	18.50	4349660.80	39837.76
2324.36	5972572.9	4283118.0	2324.43	0.00	15.00	4398169.20	39703.33
2901.74	7463358.4	4282594.0	2901.75	0.00	4.50	4543097.80	39211.24
2324.35	5972208.6	4283068.4	2324.29	-0.00	1.00	4591302.60	38952.94
1746.78	4483818.6	4283496.6	1746.73	-0.00			
1169.44	2999136.5	4283901.6	1169.43	-0.00			
591.87	1516692.9	4284340.2	591.83	-0.00			
14.70	38379.1	4284551.2	14.67	-0.00			

	TEMPERATURE (°C)	SPAN
	-5.00	25.29
	35.00	25.25

y = thermistor output (counts)

$$t = PTHA0 + PTHA1 * y + PTHA2 * y^2$$

$$x = \text{instrument output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$$

$$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$$

$$\text{pressure (PSIA)} = PA0 + PA1 * n + PA2 * n^2$$

$$\text{Residual (\%FSR)} = (\text{computed pressure} - \text{true pressure}) * 100 / \text{Full Scale Range}$$

Date, Offset (%FSR)

● 31-Jan-18 -0.00

