



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-10113
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2644.43
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	10726986	2000m(2000 dBar)



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 www.seabird.com

SENSOR SERIAL NUMBER: 10113
 CALIBRATION DATE: 25-Sep-17

SBE 41 TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

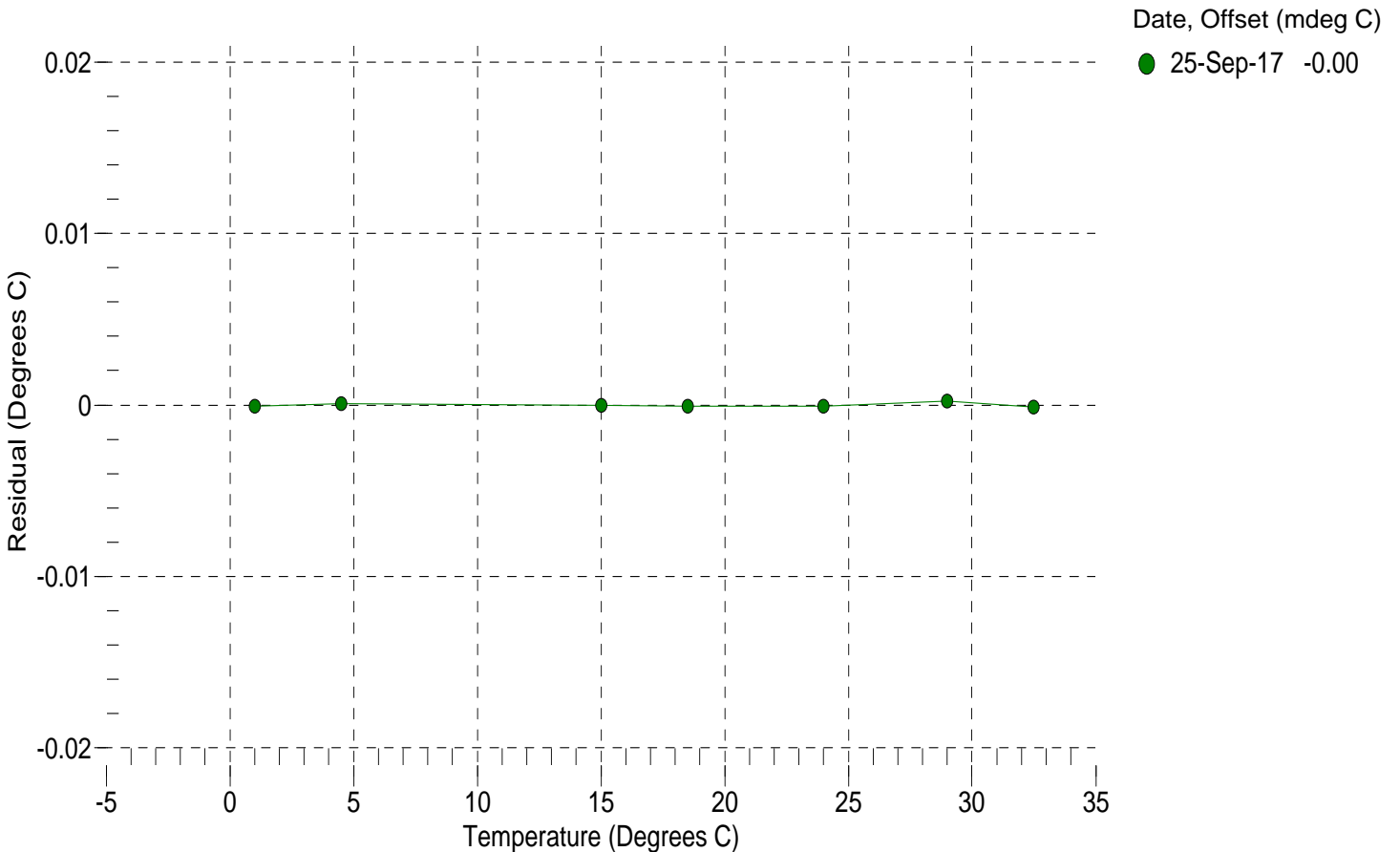
a0 = -1.031800e-003
 a1 = 3.228584e-004
 a2 = -5.555888e-006
 a3 = 1.894539e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15354516.0	0.9999	-0.0001
4.5000	13131453.5	4.5001	0.0001
15.0000	8374560.2	15.0000	-0.0000
18.5000	7253011.0	18.4999	-0.0001
23.9940	5821795.3	23.9939	-0.0001
29.0000	4793938.1	29.0002	0.0002
32.4996	4199100.8	32.4995	-0.0001

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 = -1.008240e+000 CPcor = -9.5700e-008
 h = 1.449638e-001 CTcor = 3.2500e-006
 i = -4.371731e-004 WBOTC = -2.5207e-007
 j = 5.305433e-005

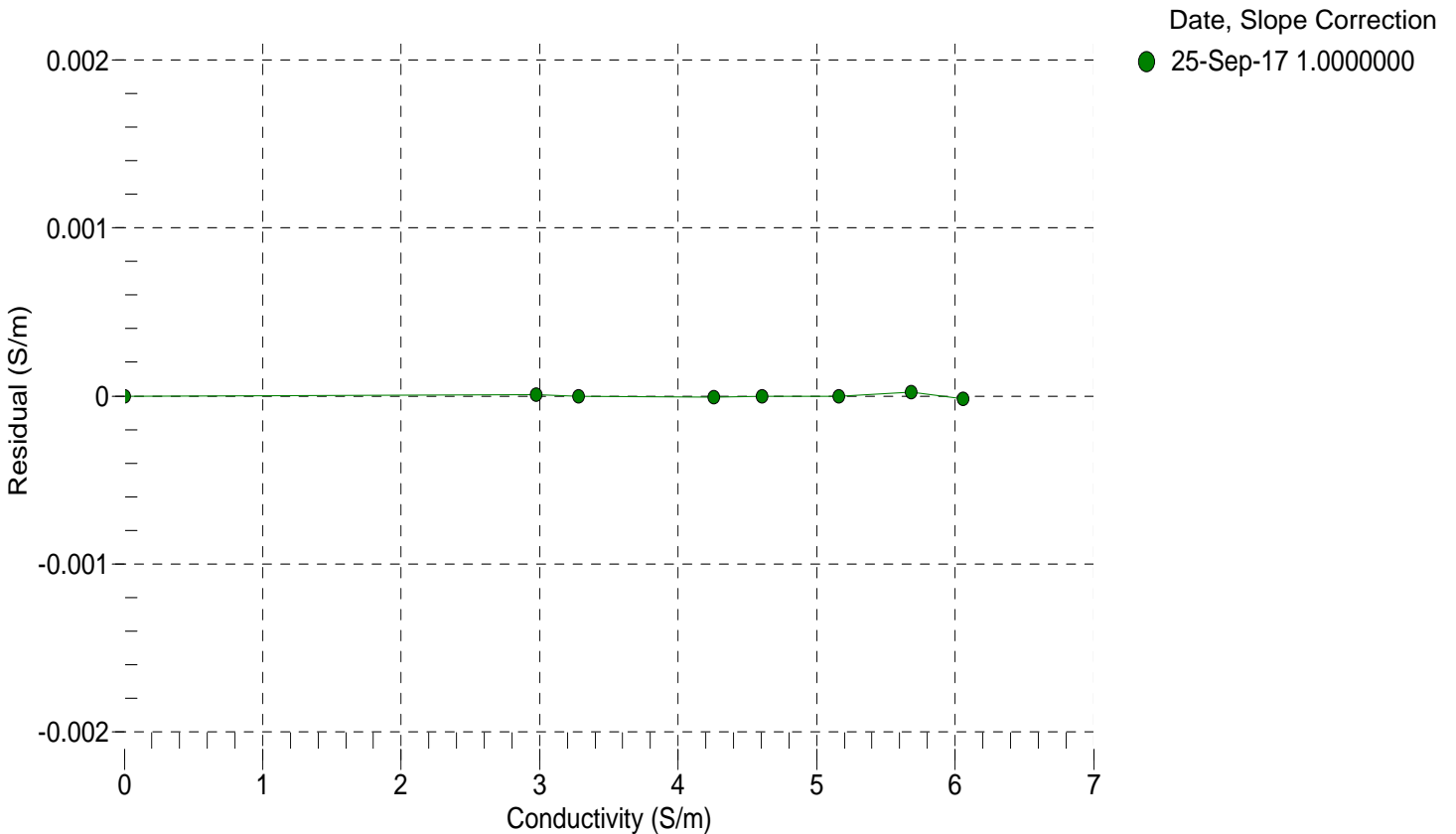
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2644.43	0.00000	0.00000
1.0000	34.7730	2.97262	5255.45	2.97262	0.00001
4.5000	34.7535	3.27938	5453.71	3.27938	-0.00000
15.0000	34.7114	4.26010	6043.30	4.26010	-0.00001
18.5000	34.7025	4.60490	6237.06	4.60490	-0.00000
23.9940	34.6931	5.16170	6537.51	5.16170	-0.00000
29.0000	34.6878	5.68364	6806.76	5.68366	0.00002
32.4996	34.6837	6.05543	6992.00	6.05542	-0.00002

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

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: 10113
 CALIBRATION DATE: 19-Sep-17

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 10726986

COEFFICIENTS:

PA0 =	4.162853e-001	PTCA0 =	8.353741e+003
PA1 =	3.913000e-004	PTCA1 =	5.807585e+001
PA2 =	-2.722555e-013	PTCA2 =	-3.732853e-001
PTHA0 =	3.371846e+002	PTCB0 =	3.120330e+005
PTHA1 =	-6.369278e-005	PTCB1 =	4.342750e+001
PTHA2 =	-1.386006e-012	PTCB2 =	-3.851946e-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)
14.48	45507.7	4516084.6	14.50	0.00	32.50	4368401.20	48138.20
591.53	1525264.6	4512174.8	591.50	-0.00	29.00	4414559.20	48104.55
1168.82	3009064.8	4510920.4	1168.88	0.00	23.99	4480349.60	47943.48
1746.20	4495871.0	4509951.6	1746.23	0.00	18.50	4552511.60	47649.94
2323.50	5985791.8	4509129.2	2323.58	0.00	15.00	4598245.40	47416.04
2900.86	7478595.5	4508366.8	2900.83	-0.00	4.50	4735398.80	46938.90
2323.50	5985637.8	4508594.2	2323.51	0.00	1.00	4780795.40	46780.15
1746.18	4495649.9	4508794.6	1746.13	-0.00			
1168.70	3008231.2	4508982.0	1168.54	-0.01			
591.36	1525255.2	4509093.2	591.48	0.00			
14.48	45352.8	4509210.2	14.43	-0.00			

TEMPERATURE (°C)	SPAN
4.61	312225.17
25.07	312879.54
33.61	313057.57

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)

● 19-Sep-17 0.00

