



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
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SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-8606
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2628.00
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	10374301	2000m(2000 dBar)

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SENSOR SERIAL NUMBER: 8606
CALIBRATION DATE: 19-Jul-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

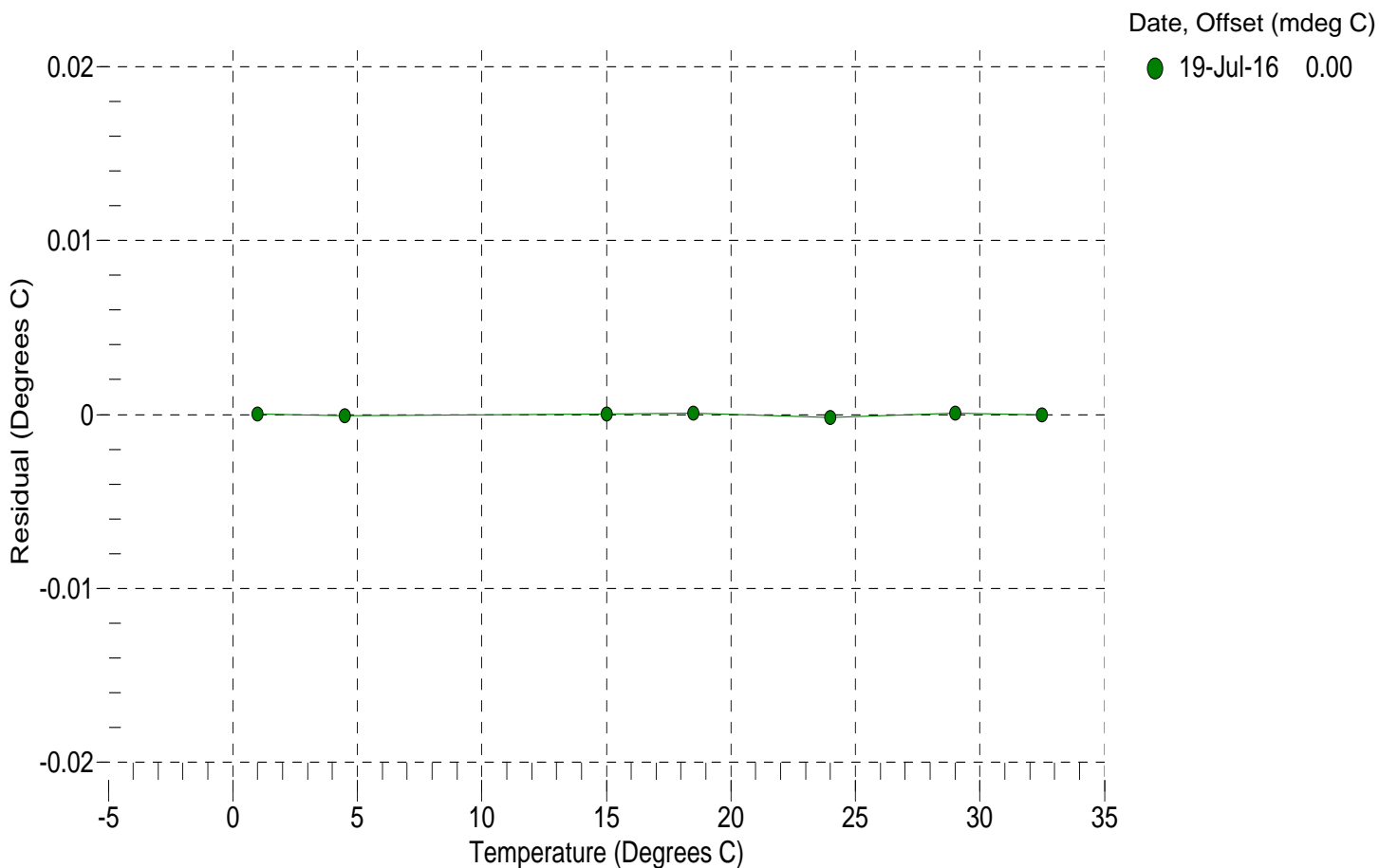
a0 = -7.275433e-004
a1 = 2.690689e-004
a2 = -2.351696e-006
a3 = 1.192195e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	16837049.8	1.0000	0.0000
4.5000	14362563.2	4.4999	-0.0001
15.0000	9092867.2	15.0000	0.0000
18.5000	7856783.3	18.5001	0.0001
23.9940	6284064.3	23.9938	-0.0002
29.0000	5158253.2	29.0001	0.0001
32.5000	4508293.5	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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CALIBRATION DATE: 19-Jul-16

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

COEFFICIENTS:

g = -9.970625e-001
h = 1.449779e-001
i = -3.506561e-004
j = 4.559114e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -9.8286e-007

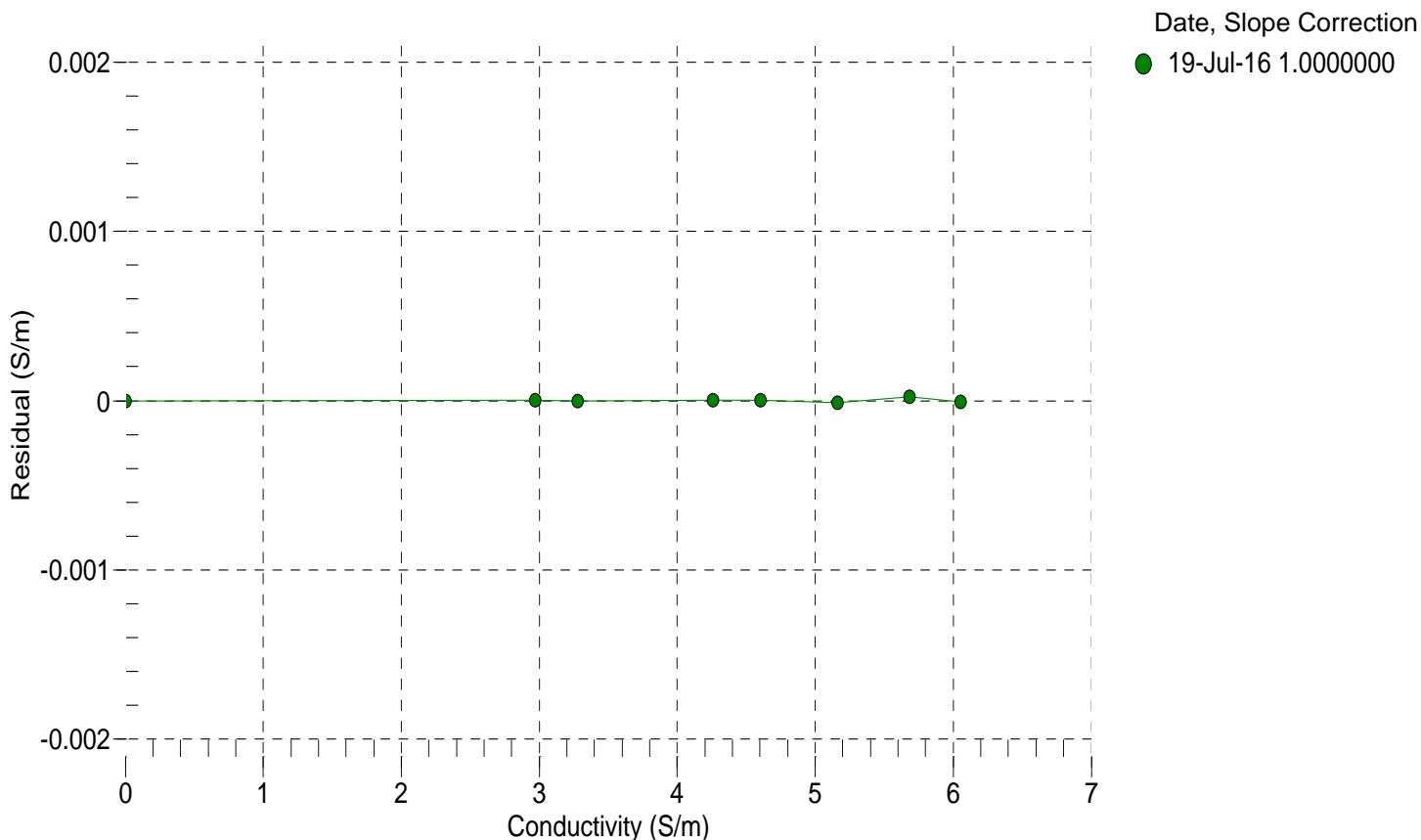
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2628.00	0.00000	0.00000
1.0000	34.7610	2.97169	5242.70	2.97169	0.00000
4.5000	34.7414	3.27835	5441.01	3.27835	-0.00000
15.0000	34.6984	4.25868	6030.63	4.25868	0.00000
18.5000	34.6892	4.60332	6224.40	4.60333	0.00000
23.9940	34.6790	5.15984	6524.83	5.15982	-0.00001
29.0000	34.6738	5.68160	6794.15	5.68162	0.00002
32.5000	34.6711	6.05353	6979.56	6.05352	-0.00001

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

t = temperature (°C); p = pressure (decibars); δ = CTcor; ϵ = CPcor;

$$\text{Conductivity (S/m)} = (g + h * f^2 + i * f^3 + j * f^4) / 10 (1 + \delta * t + \epsilon * p)$$

$$\text{Residual (Siemens/meter)} = \text{instrument conductivity} - \text{bath conductivity}$$



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SENSOR SERIAL NUMBER: 8606
CALIBRATION DATE: 15-Jul-16

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 10374301

COEFFICIENTS:

PA0 =	9.761534e-001	PTCA0 =	1.676598e+003
PA1 =	3.941199e-004	PTCA1 =	1.525972e+002
PA2 =	-3.042151e-013	PTCA2 =	-1.887492e+000
PTHA0 =	2.888687e+002	PTCB0 =	2.509187e+001
PTHA1 =	-6.167583e-005	PTCB1 =	5.750000e-004
PTHA2 =	-8.181653e-013	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)
14.69	39038.3	4096222.6	14.72	0.00	32.50	3949794.40	40765.20
590.81	1503552.1	4094033.6	590.92	0.00	29.00	4001020.80	40707.38
1166.97	2971278.6	4092942.8	1167.09	0.00	23.99	4074470.20	40473.28
1743.00	4441918.4	4091805.6	1743.08	0.00	18.50	4154657.60	40024.02
2319.05	5915963.9	4090149.2	2319.08	0.00	15.00	4205860.00	39654.86
2895.11	7393468.7	4088883.8	2895.11	-0.00	4.50	4358636.40	38467.44
2319.08	5915805.6	4088712.8	2319.01	-0.00	1.00	4409537.40	38021.62
1742.96	4441679.8	4088293.8	1742.97	0.00			
1166.99	2970542.1	4088035.8	1166.78	-0.01			
590.74	1502883.8	4087890.4	590.65	-0.00	TEMPERATURE (°C)	SPAN (mV)	
14.69	38946.8	4087803.4	14.67	-0.00	-5.00	25.09	
					35.00	25.11	

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)

● 15-Jul-16 -0.00

