



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
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SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-8760
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2648.40
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	10300914	2000m(2000 dBar)

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SENSOR SERIAL NUMBER: 8760
CALIBRATION DATE: 09-Aug-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

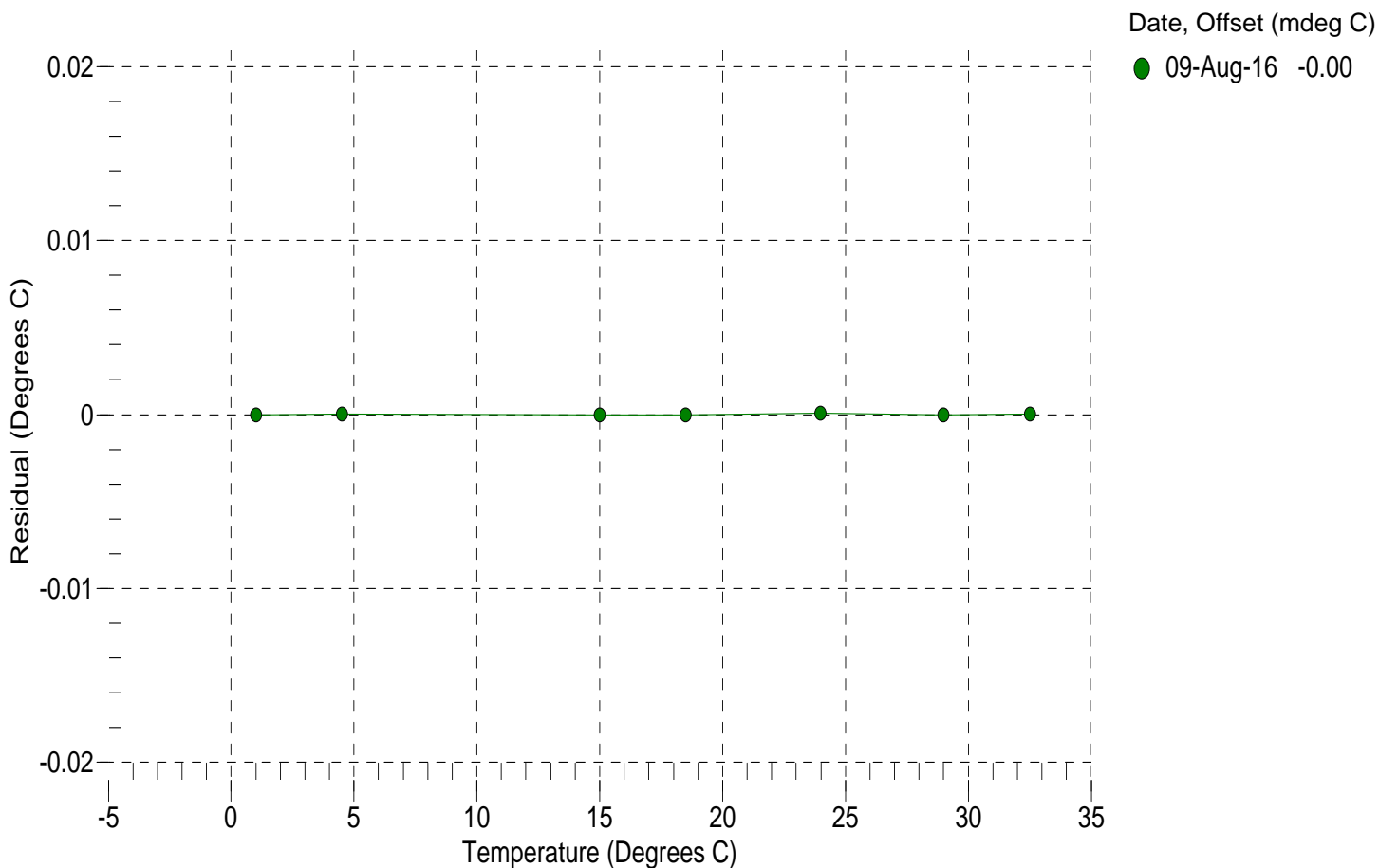
a0 = -8.052436e-004
a1 = 2.865157e-004
a2 = -3.432308e-006
a3 = 1.418826e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0001	15833144.3	1.0001	-0.0000
4.5001	13505064.9	4.5001	0.0000
15.0001	8548044.2	15.0001	-0.0000
18.5001	7385513.8	18.5001	-0.0000
23.9941	5906434.2	23.9942	0.0001
29.0001	4847961.4	29.0001	-0.0000
32.5001	4236878.5	32.5001	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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SENSOR SERIAL NUMBER: 8760
 CALIBRATION DATE: 09-Aug-16

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

COEFFICIENTS:

g = -1.015065e+000
 h = 1.454193e-001
 i = -3.933790e-004
 j = 4.935634e-005

CPcor = -9.5700e-008
 CTcor = 3.2500e-006
 WBOTC = -1.1641e-006

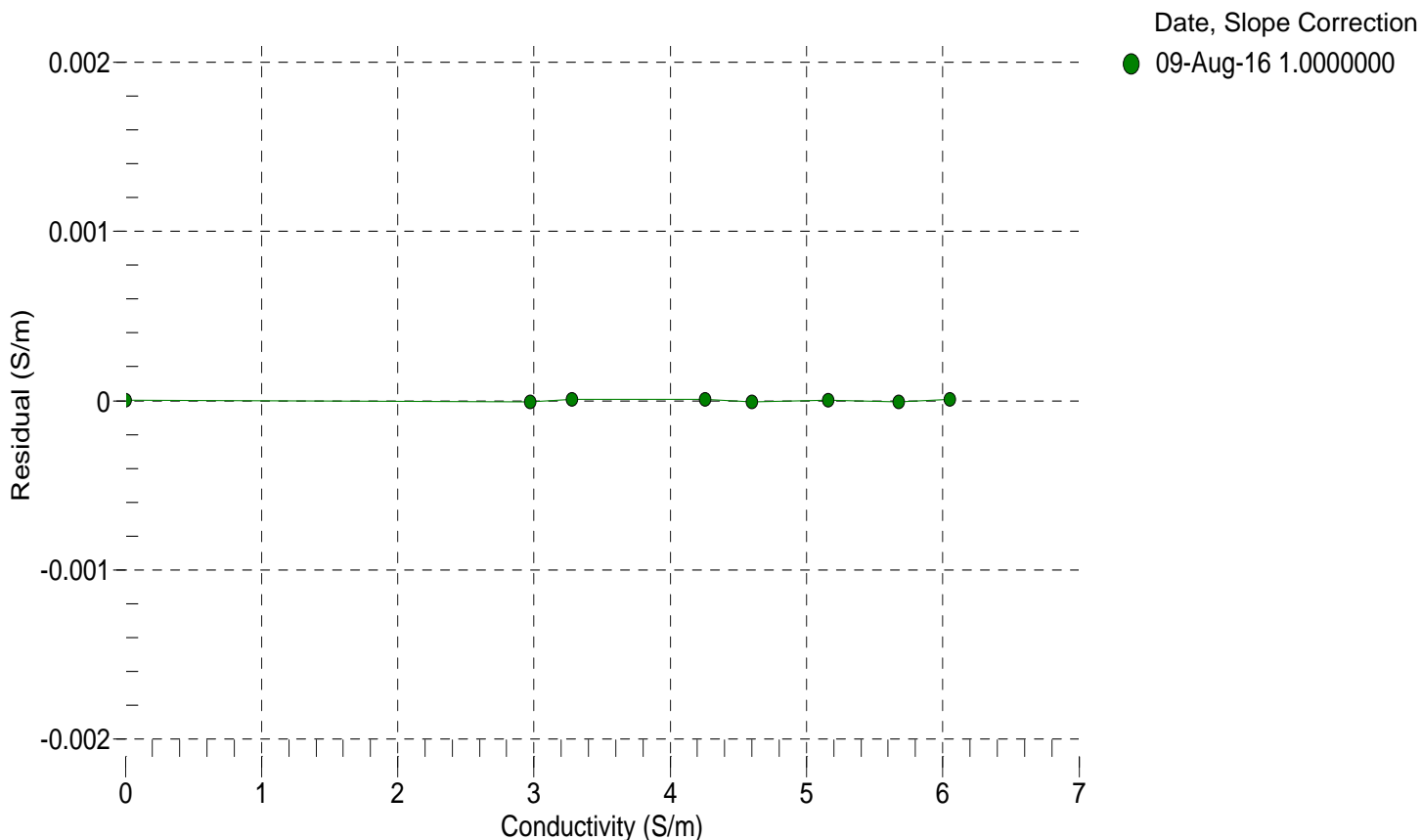
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2648.40	0.00000	0.00000
1.0001	34.7419	2.97022	5247.77	2.97021	-0.00001
4.5001	34.7220	3.27671	5445.37	3.27672	0.00001
15.0001	34.6798	4.25665	6033.10	4.25665	0.00001
18.5001	34.6712	4.60120	6226.30	4.60119	-0.00001
23.9941	34.6618	5.15757	6525.90	5.15757	0.00000
29.0001	34.6565	5.67909	6794.40	5.67909	-0.00001
32.5001	34.6535	6.05081	6979.28	6.05082	0.00001

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

t = temperature (°C); p = pressure (decibars); $\delta = \text{CTcor}$; $\epsilon = \text{CPcor}$;

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

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



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SENSOR SERIAL NUMBER: 8760
 CALIBRATION DATE: 02-Aug-16

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 10300914

COEFFICIENTS:

PA0 = 9.914272e-001	PTCA0 = 4.096572e+004
PA1 = 3.922078e-004	PTCA1 = 1.107740e+002
PA2 = -3.187921e-013	PTCA2 = 1.893959e-001
PTHA0 = 3.126013e+002	PTCB0 = 2.529938e+001
PTHA1 = -6.018877e-005	PTCB1 = 4.750000e-004
PTHA2 = -1.465330e-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)
14.66	78477.7	4364365.0	14.71	0.00	32.50	4220165.40	81189.10
591.51	1551526.6	4360596.8	591.47	-0.00	29.00	4268253.40	80835.68
1168.17	3028189.6	4359425.6	1168.27	0.00	23.99	4337107.40	80264.89
1744.85	4508251.9	4358346.2	1745.00	0.00	18.50	4412357.40	79543.01
2321.62	5991806.8	4357300.6	2321.69	0.00	15.00	4460154.80	79072.67
2898.24	7478578.4	4356118.8	2898.22	-0.00	4.50	4603051.00	77949.98
2321.52	5991212.2	4355929.4	2321.45	-0.00	1.00	4650546.20	77548.93
1744.80	4507632.4	4355343.2	1744.74	-0.00			
1167.91	3027163.4	4355305.0	1167.85	-0.00			
591.12	1550360.0	4355352.4	590.99	-0.00	TEMPERATURE (°C)	SPAN (mV)	
14.67	78609.1	4350935.4	14.71	0.00	-5.00	25.30	
					35.00	25.32	

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)

● 02-Aug-16 -0.00

