



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
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SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-8746
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2607.17
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	10300656	2000m(2000 dBar)

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SENSOR SERIAL NUMBER: 8746
CALIBRATION DATE: 11-Aug-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

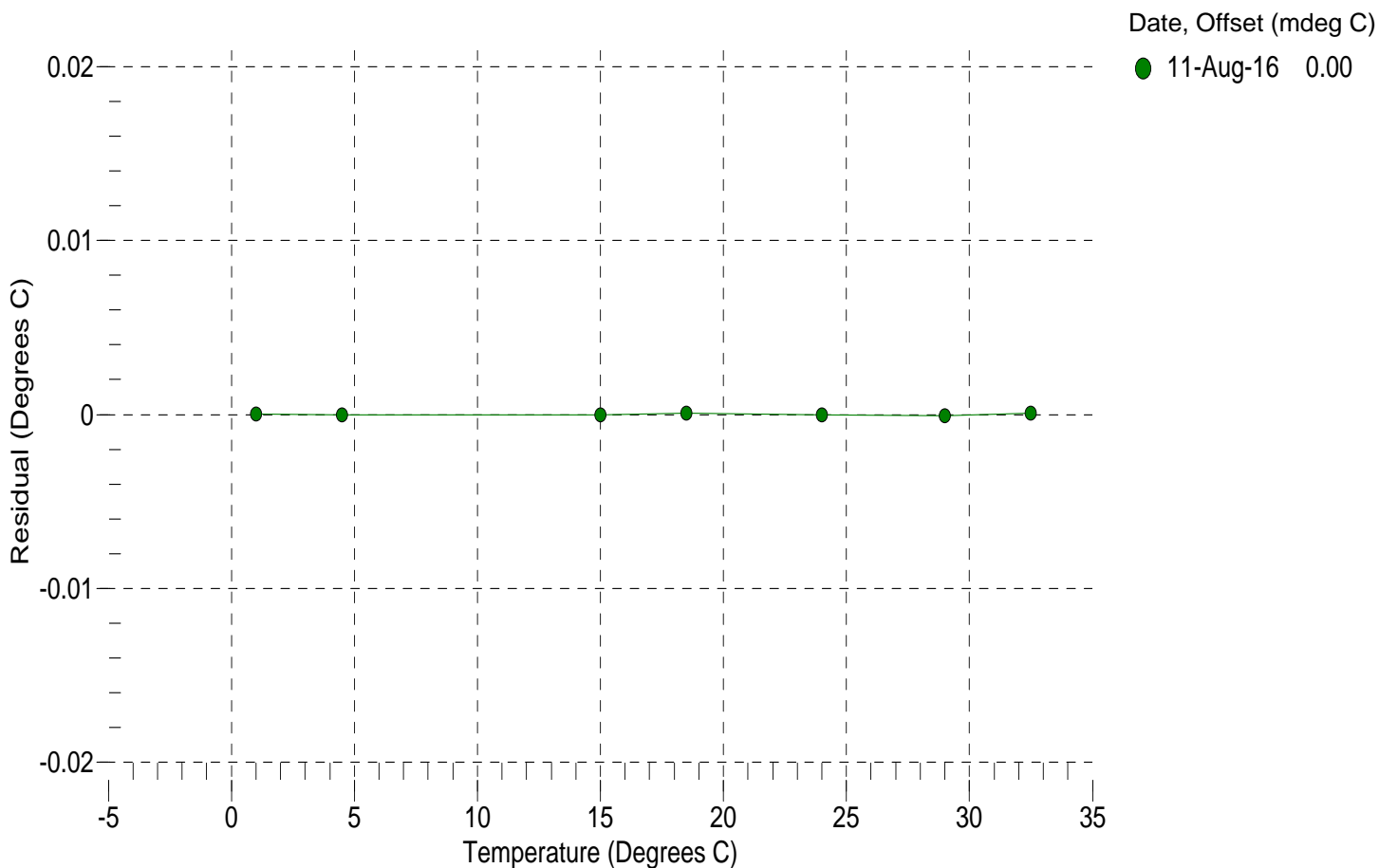
a0 = -8.118216e-004
a1 = 2.867238e-004
a2 = -3.455743e-006
a3 = 1.420148e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	16331519.8	1.0000	0.0000
4.5000	13928415.5	4.5000	-0.0000
15.0000	8812669.3	15.0000	-0.0000
18.5000	7613200.9	18.5001	0.0001
23.9940	6087441.7	23.9940	-0.0000
29.0000	4995711.2	28.9999	-0.0001
32.5000	4365501.3	32.5001	0.0001

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: 11-Aug-16

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

COEFFICIENTS:

g = -1.000816e+000
 h = 1.478517e-001
 i = -3.605395e-004
 j = 4.780610e-005

CPcor = -9.5700e-008
 CTcor = 3.2500e-006
 WBOTC = -3.1959e-008

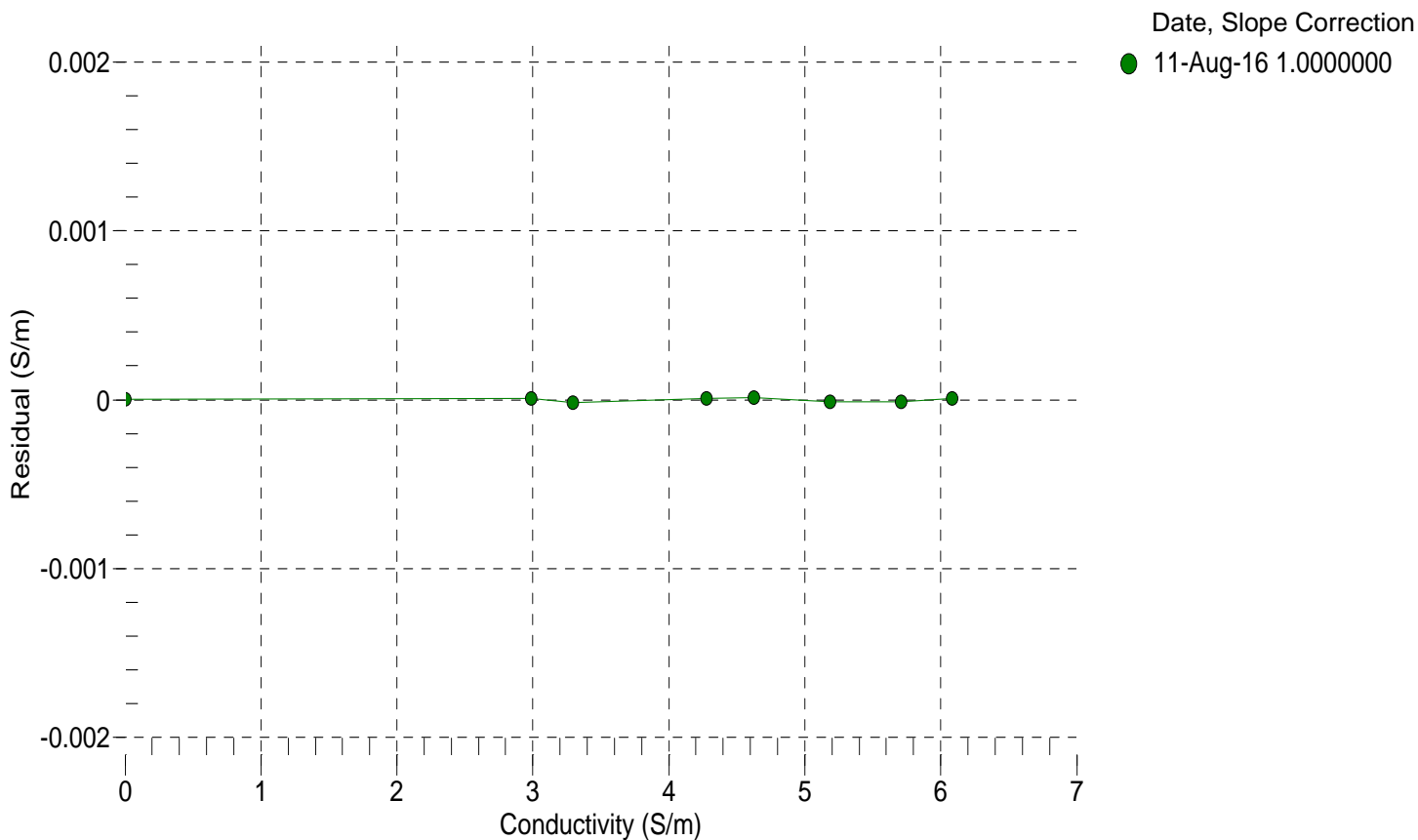
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2607.17	0.00000	0.00000
1.0000	34.9431	2.98577	5202.89	2.98578	0.00001
4.5000	34.9229	3.29379	5399.63	3.29377	-0.00002
15.0000	34.8796	4.27856	5984.70	4.27856	0.00001
18.5000	34.8703	4.62476	6176.95	4.62477	0.00001
23.9940	34.8600	5.18378	6475.03	5.18377	-0.00001
29.0000	34.8540	5.70780	6742.16	5.70779	-0.00001
32.5000	34.8511	6.08137	6926.12	6.08138	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: 8746
CALIBRATION DATE: 01-Aug-16

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 10300656

COEFFICIENTS:

PA0 =	8.347913e-001	PTCA0 =	-6.178403e+004
PA1 =	4.022135e-004	PTCA1 =	7.398885e+001
PA2 =	-3.021795e-013	PTCA2 =	1.000509e+000
PTHA0 =	2.876558e+002	PTCB0 =	2.436313e+001
PTHA1 =	-6.022575e-005	PTCB1 =	-3.375000e-003
PTHA2 =	-1.015553e-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)
14.65	-25310.8	4129159.2	14.71	0.00	32.50	3970796.20	-22165.80
591.37	1405797.8	4126684.2	591.41	0.00	29.00	4021968.20	-22588.52
1168.02	2840199.0	4125401.2	1168.20	0.01	23.99	4095124.80	-23217.62
1744.86	4277652.3	4124227.0	1744.98	0.00	18.50	4175205.40	-23924.21
2321.62	5718080.6	4123100.8	2321.70	0.00	15.00	4226022.00	-24291.89
2898.30	7161197.0	4121739.2	2898.25	-0.00	4.50	4378354.80	-25199.89
2321.53	5717507.1	4121585.2	2321.50	-0.00	1.00	4428909.00	-25555.27
1744.90	4277239.7	4121316.4	1744.85	-0.00			
1168.03	2839171.3	4121135.2	1167.82	-0.01			
591.15	1404723.6	4121041.2	590.99	-0.01			
14.65	-25365.0	4120400.2	14.66	0.00			

					TEMPERATURE (°C)	SPAN (mV)
					-5.00	24.38
					35.00	24.25

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)

● 01-Aug-16 -0.00

