



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
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SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-8690
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2655.09
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	10300815	2000m(2000 dBar)

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SENSOR SERIAL NUMBER: 8690
CALIBRATION DATE: 26-Jul-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

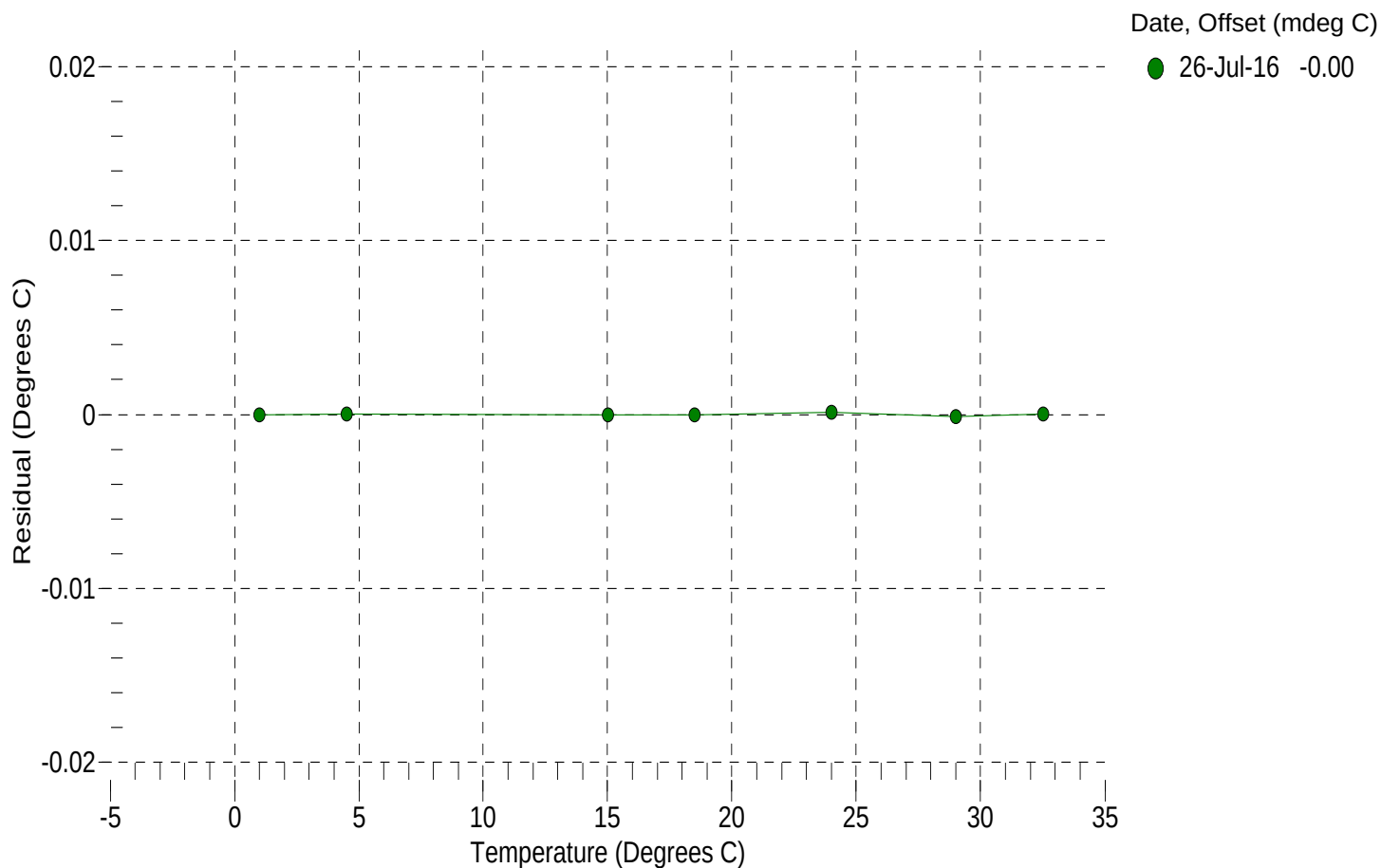
a0 = -9.432529e-004
a1 = 3.145696e-004
a2 = -5.173040e-006
a3 = 1.790254e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14887330.2	1.0000	-0.0000
4.5000	12701751.7	4.5000	0.0000
15.0000	8045626.0	15.0000	-0.0000
18.5000	6953070.3	18.5000	-0.0000
23.9940	5562637.4	23.9941	0.0001
29.0000	4567354.5	28.9999	-0.0001
32.5000	3992598.0	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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SBE 41 CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -9.941600e-001
h = 1.417202e-001
i = -3.903394e-004
j = 4.859211e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -3.7659e-007

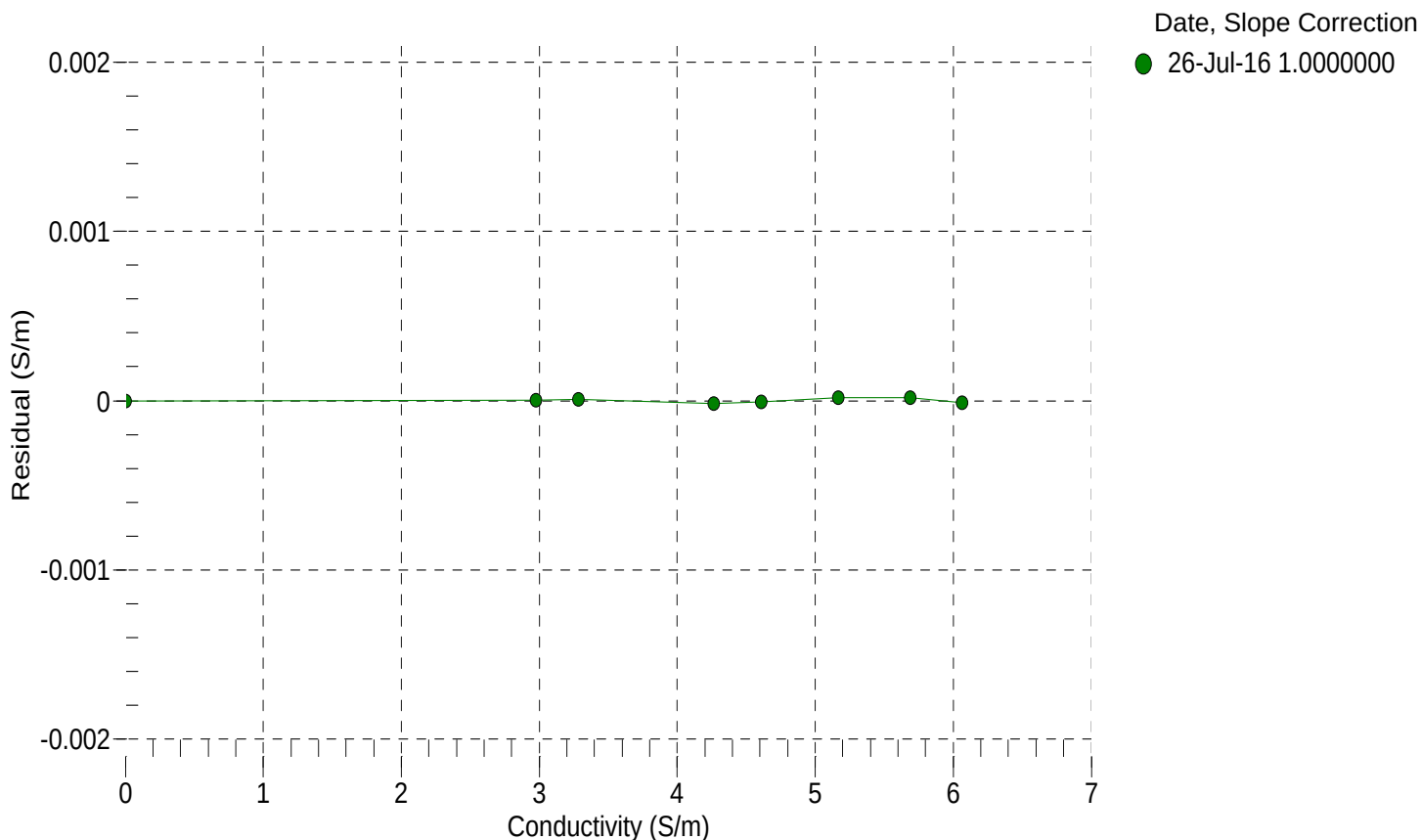
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2655.09	0.00000	0.00000
1.0000	34.8130	2.97571	5305.82	2.97571	0.00000
4.5000	34.7934	3.28278	5506.71	3.28278	0.00001
15.0000	34.7517	4.26453	6103.94	4.26451	-0.00002
18.5000	34.7426	4.60965	6300.17	4.60964	-0.00001
23.9940	34.7328	5.16696	6604.41	5.16697	0.00002
29.0000	34.7269	5.68932	6876.99	5.68934	0.00002
32.5000	34.7217	6.06136	7064.48	6.06134	-0.00001

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

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

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

Residual (Siemens/meter) = instrument conductivity - bath conductivity



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SBE 41 PRESSURE CALIBRATION DATA

2900 psia S/N 10300815

COEFFICIENTS:

PA0 = -1.226234e+000

PA1 = 3.950608e-004

PA2 = -2.863882e-013

PTHA0 = 2.889272e+002

PTHA1 = -6.075067e-005

PTHA2 = -9.591063e-013

PTCA0 = -1.167766e+004

PTCA1 = -1.495765e+002

PTCA2 = 6.235971e-001

PTCB0 = 2.503656e+001

PTCB1 = 2.155388e-003

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)
14.67	25639.2	4110605.4	14.71	0.00	32.50	3971908.40	26084.30
591.19	1489350.1	4108467.6	591.18	-0.00	29.00	4023080.00	26546.71
1167.57	2956150.2	4107341.8	1167.63	0.00	23.99	4096093.60	27098.64
1744.02	4426007.8	4106281.8	1744.04	0.00	18.50	4176103.40	27727.04
2320.37	5898967.5	4105126.2	2320.42	0.00	15.00	4226946.80	28196.95
2896.78	7375071.1	4104201.2	2896.78	0.00	4.50	4379153.00	29710.69
2320.42	5898809.0	4104423.4	2320.35	-0.00	1.00	4429682.80	30132.99
1743.94	4425809.2	4104458.0	1743.95	0.00			
1167.42	2955618.0	4104543.6	1167.41	-0.00	TEMPERATURE (°C) SPAN (mV)		
590.85	1488328.1	4104735.0	590.78	-0.00	-4.90	25.03	
14.67	25461.5	4104838.8	14.66	-0.00	35.00	25.11	

y = thermistor output (counts)

t = PTHA0 + PTHA1 * y + PTHA2 * y²

x = instrument output - PTCA0 - PTCA1 * t - PTCA2 * t²

n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t²)

pressure (PSIA) = PA0 + PA1 * n + PA2 * n²

Residual (%FSR) = (computed pressure - true pressure) * 100 / Full Scale Range

Date, Offset (%FSR)

● 20-Jul-16 0.00

