



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
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SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-9085
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2643.28
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	Kistler	4978190	2000m(2000 dBar)

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SENSOR SERIAL NUMBER: 9085
CALIBRATION DATE: 28-Oct-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

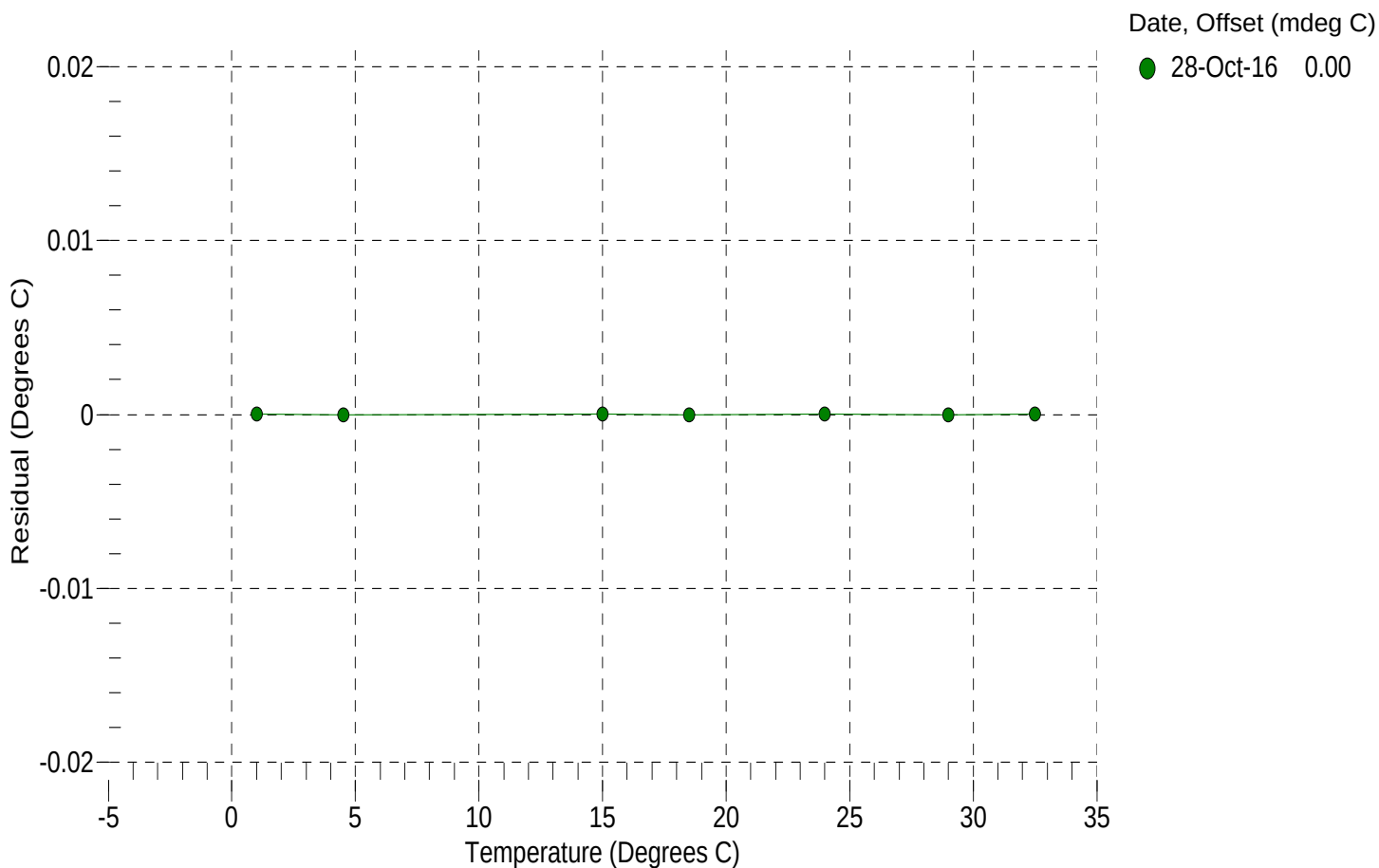
a0 = -8.060688e-004
a1 = 2.882911e-004
a2 = -3.537872e-006
a3 = 1.422812e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	15755898.4	1.0000	0.0000
4.5000	13428669.4	4.5000	-0.0000
15.0000	8480969.4	15.0000	0.0000
18.5000	7322534.5	18.5000	-0.0000
23.9940	5850049.8	23.9940	0.0000
29.0000	4797388.8	29.0000	-0.0000
32.5000	4190169.0	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 = -9.989446e-001
h = 1.436549e-001
i = -3.853696e-004
j = 4.847556e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = -4.4131e-007

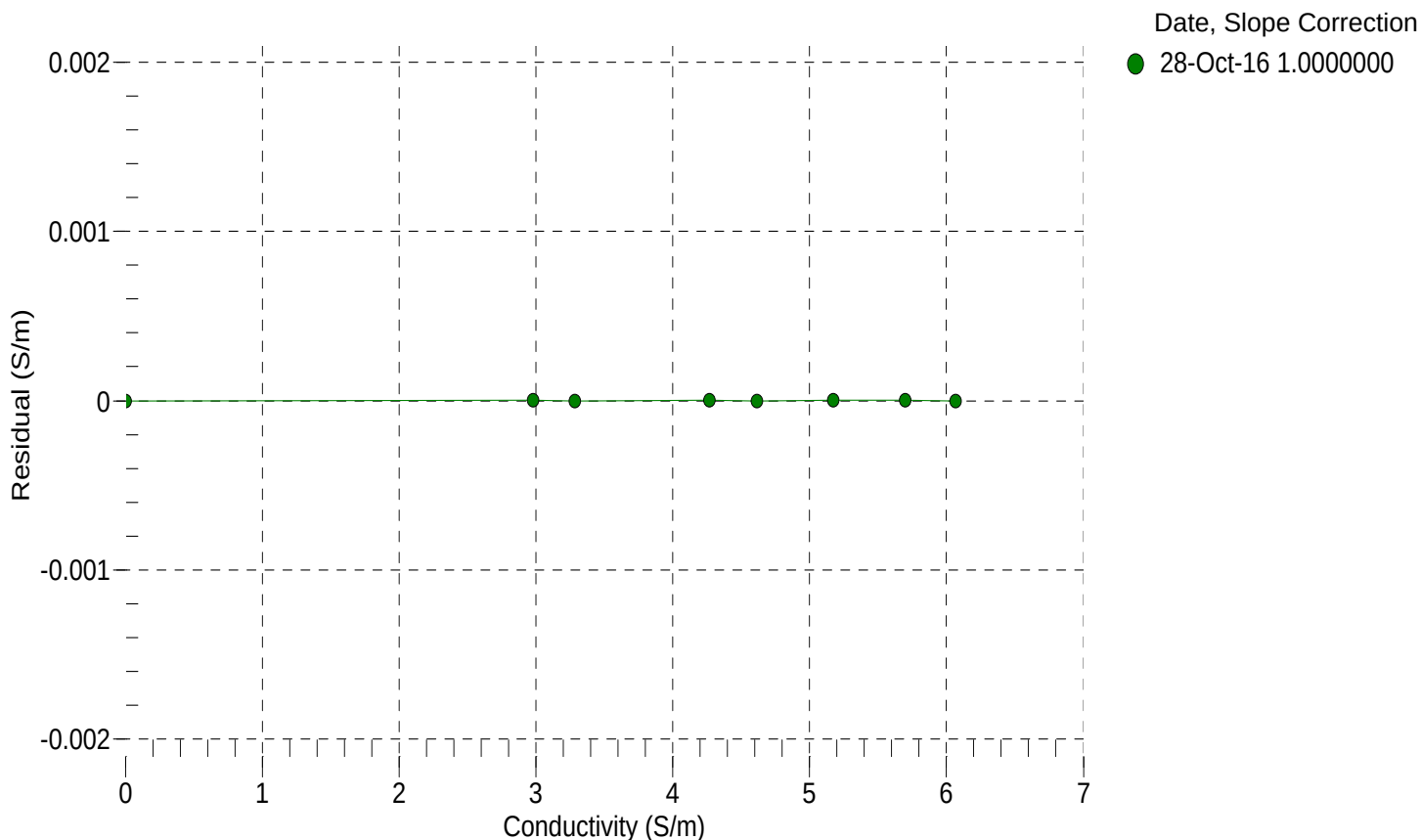
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2643.28	0.00000	0.00000
1.0000	34.8581	2.97920	5274.93	2.97920	0.00000
4.5000	34.8385	3.28661	5474.46	3.28661	-0.00000
15.0000	34.7959	4.26938	6067.70	4.26938	0.00000
18.5000	34.7869	4.61489	6262.64	4.61489	-0.00000
23.9940	34.7772	5.17283	6564.91	5.17283	0.00000
29.0000	34.7722	5.69591	6835.80	5.69591	0.00000
32.5000	34.7702	6.06886	7022.35	6.06886	-0.00000

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

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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CALIBRATION DATE: 17-Oct-16

SBE 41 PRESSURE CALIBRATION DATA

2900 psia S/N 4978190

COEFFICIENTS:

PA0 = 3.075636e-001

PA1 = 3.892858e-004

PA2 = 1.215960e-013

PTHA0 = 3.102049e+002

PTHA1 = -8.563800e-005

PTHA2 = 2.195452e-012

PTCA0 = 6.254169e+004

PTCA1 = -1.502380e+002

PTCA2 = 8.560391e+000

PTCB0 = 1.054375e+002

PTCB1 = -5.086056e-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)
14.43	99998.3	3723374.0	14.60	0.01	32.50	3569358.80	105458.10
589.94	1575962.1	3721065.4	590.04	0.00	29.00	3619545.80	104122.74
1165.66	3051155.8	3720031.2	1165.73	0.00	23.99	3691474.80	102635.51
1741.41	4525320.0	3719116.4	1741.55	0.00	18.50	3770768.20	101471.35
2317.24	5998099.5	3718293.6	2317.36	0.00	15.00	3821495.80	100947.49
2892.92	7468627.6	3717353.8	2892.82	-0.00	4.50	3974727.20	100774.78
2317.11	5997603.1	3717161.6	2317.17	0.00	1.00	4026201.60	101171.54
1741.23	4524259.6	3716837.6	1741.13	-0.00			
1165.72	3050620.6	3716566.0	1165.51	-0.01	TEMPERATURE (°C) SPAN (mV)		
589.68	1574755.2	3716343.8	589.55	-0.00	-4.20		105.46
14.44	99413.6	3715911.6	14.32	-0.00	35.89		105.26

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)

● 17-Oct-16 -0.00

