



SEA-BIRD
SCIENTIFIC

SBE Sea-Bird
Electronics

Sea-Bird Electronics
13431 NE 20th Street
Bellevue, Washington
98005 USA

Tel: +1 425-643-9866
seabird@seabird.com
www.seabird.com

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-8705
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2581.70
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	10387034	2000m(2000 dBar)

Sea-Bird Electronics, Inc.

13431 NE 20th Street, Bellevue, WA 98005-2010 USA

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 8705
CALIBRATION DATE: 02-Aug-16

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

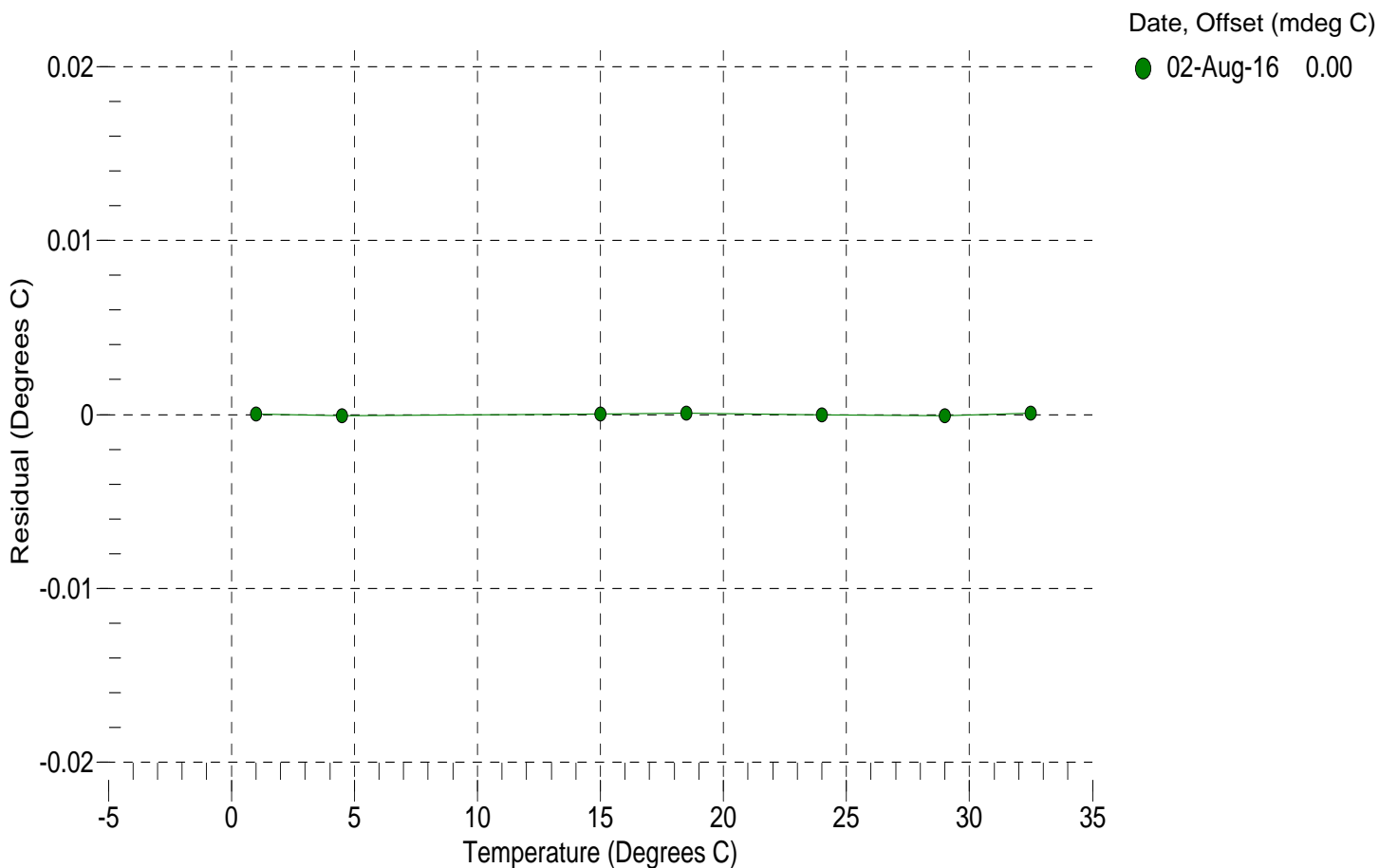
a0 = -8.608706e-004
a1 = 2.948694e-004
a2 = -3.963945e-006
a3 = 1.525522e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	16654540.9	1.0000	0.0000
4.5000	14204903.0	4.4999	-0.0001
15.0000	8989210.0	15.0000	0.0000
18.5000	7766163.3	18.5001	0.0001
23.9940	6210287.0	23.9940	-0.0000
29.0000	5096912.8	28.9999	-0.0001
32.5000	4454186.3	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



Sea-Bird Electronics, Inc.

13431 NE 20th Street, Bellevue, WA 98005-2010 USA

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 8705
CALIBRATION DATE: 02-Aug-16

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

COEFFICIENTS:

g = -1.002228e+000
h = 1.503794e-001
i = -1.017751e-004
j = 3.759854e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 1.6137e-007

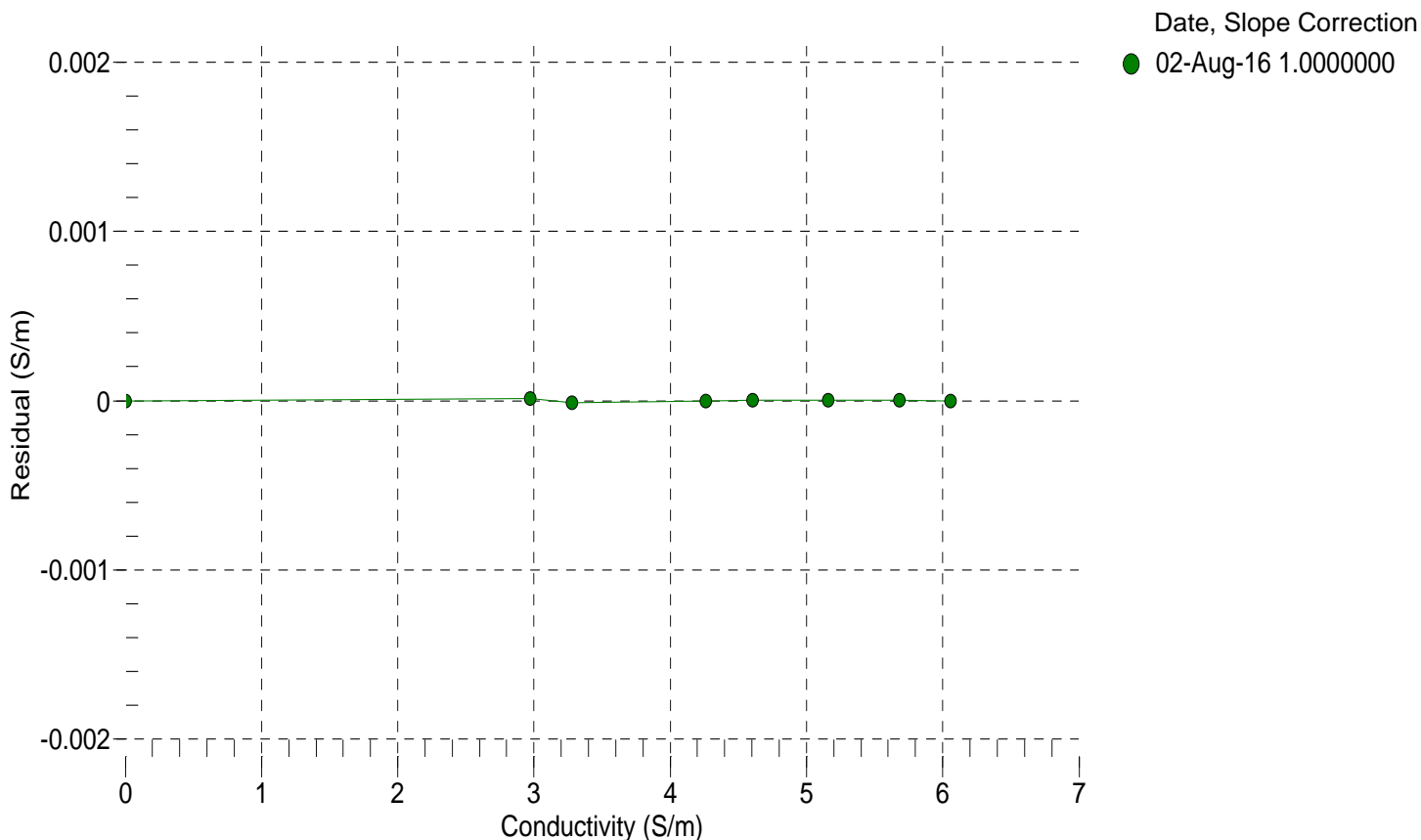
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2581.70	0.00000	0.00000
1.0000	34.7688	2.97229	5133.03	2.97230	0.00001
4.5000	34.7491	3.27901	5326.43	3.27899	-0.00001
15.0000	34.7068	4.25960	5901.48	4.25960	-0.00000
18.5000	34.6980	4.60437	6090.45	4.60437	0.00000
23.9940	34.6883	5.16107	6383.45	5.16107	0.00000
29.0000	34.6833	5.68298	6646.04	5.68298	0.00000
32.5000	34.6810	6.05506	6826.87	6.05506	-0.00000

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

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

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

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



Sea-Bird Electronics, Inc.

13431 NE 20th Street, Bellevue, WA 98005-2010 USA

Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 8705
CALIBRATION DATE: 25-Jul-16

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 10387034

COEFFICIENTS:

PA0 =	9.020995e-001	PTCA0 =	-1.062964e+003
PA1 =	3.934473e-004	PTCA1 =	7.730743e+001
PA2 =	-2.978773e-013	PTCA2 =	1.269185e+000
PTHA0 =	3.087236e+002	PTCB0 =	2.514337e+001
PTHA1 =	-6.197381e-005	PTCB1 =	7.500000e-005
PTHA2 =	-1.126196e-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)
14.64	36313.5	4294124.8	14.70	0.00	32.50	4144882.80	39592.40
591.19	1503184.3	4291479.2	591.12	-0.00	29.00	4193928.00	39115.52
1167.48	2973440.8	4289615.0	1167.59	0.00	23.99	4264047.80	38373.20
1743.86	4446673.9	4288326.2	1743.93	0.00	18.50	4340592.40	37626.79
2320.31	5923524.8	4287148.6	2320.39	0.00	15.00	4389331.00	37187.64
2896.66	7402944.9	4286029.2	2896.54	-0.00	4.50	4535149.40	36159.53
2320.21	5923384.9	4285983.6	2320.33	0.00	1.00	4583606.00	35844.02
1743.92	4446572.0	4285839.2	1743.88	-0.00			
1167.40	2972719.2	4285787.2	1167.29	-0.00			
590.85	1502189.2	4285617.0	590.71	-0.00			
14.64	36394.5	4285378.2	14.70	0.00			

TEMPERATURE (°C)	SPAN (mV)
-5.00	25.14
35.00	25.15

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)

● 25-Jul-16 0.00

