SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number:	41-10065
Instrument Firmware Version:	V 7.2.5
Zero Conductivity Frequency:	2738.25
Communications Format:	RS232
Communications Settings:	9600 baud, 8 Data Bits, No Parity

Installed Devices/Sensors

Data Format	*Measurement*	*Sensor Type*	*Serial Number*	*Rating*
Count	Temperature	Internal	N/A	N/A
Frequency	Conductivity	Internal	N/A	N/A
Count	Pressure	Druck	10717051	2000m(2000 dBar)

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Bellevue, WA 98005
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www.seabird.com

SENSOR SERIAL NUMBER: 10065
CALIBRATION DATE: 28-Aug-17

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

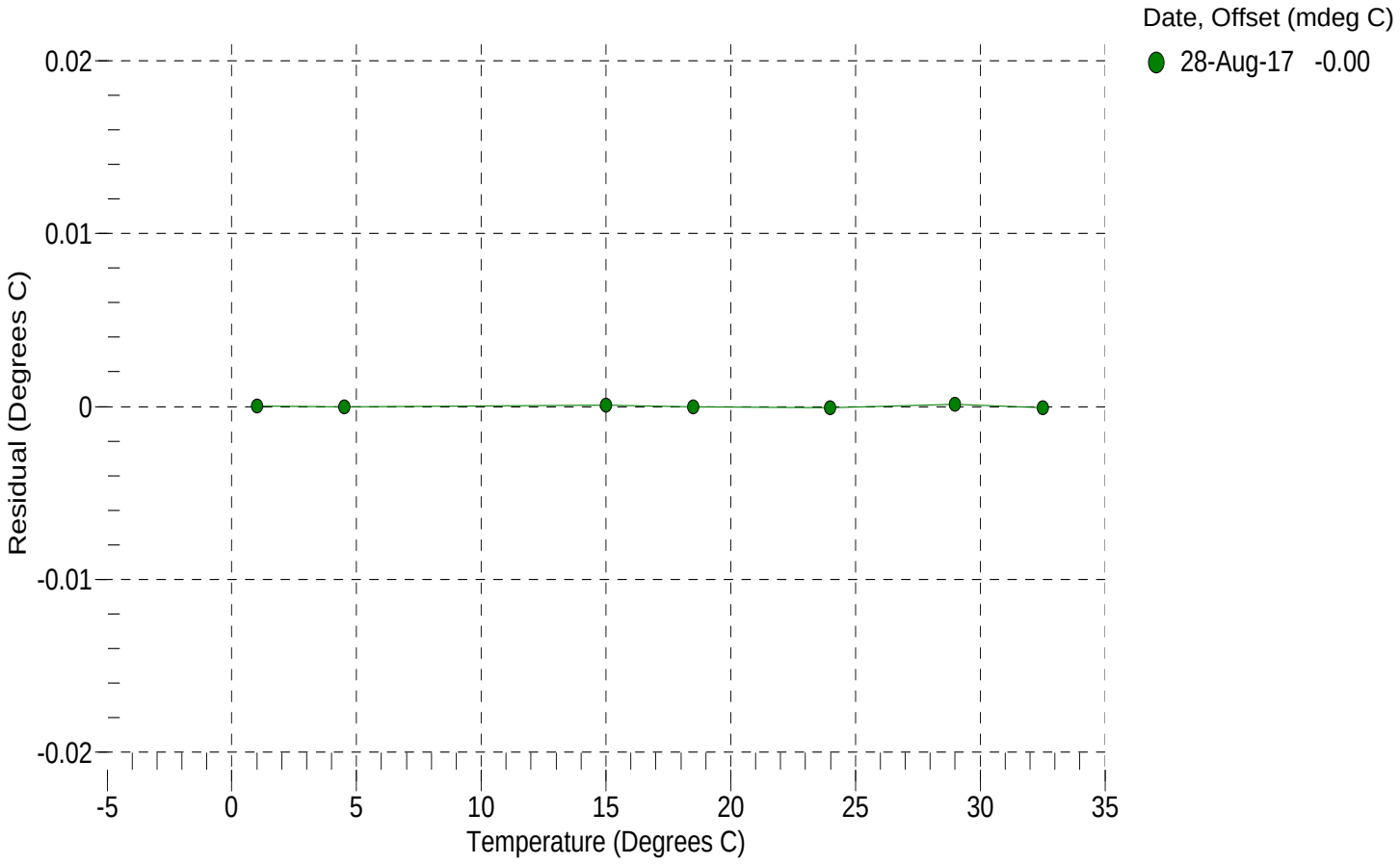
```
a0 = -7.288436e-004
a1 =  2.742123e-004
a2 = -2.621181e-006
a3 =  1.255736e-007
```

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14726801.1	1.0000	0.0000
4.5000	12565737.0	4.5000	-0.0000
15.0000	7961553.6	15.0001	0.0001
18.5000	6881072.3	18.5000	-0.0000
23.9940	5505834.8	23.9939	-0.0001
29.0000	4521103.5	29.0001	0.0001
32.5000	3952447.0	32.4999	-0.0001

n = Instrument Output (counts)

Temperature ITS-90 (°C) = $1/\{a0 + a1[ln(n)] + a2[ln^2(n)] + a3[ln^3(n)]\} - 273.15$

Residual (°C) = instrument temperature - bath temperature



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SENSOR SERIAL NUMBER: 10065
CALIBRATION DATE: 28-Aug-17

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

COEFFICIENTS:

```
g = -9.978756e-001
h =  1.337074e-001
i = -3.487843e-004
j =  4.192045e-005

CPcor = -9.5700e-008
CTcor =  3.2500e-006
WBOTC =  6.3297e-006
```

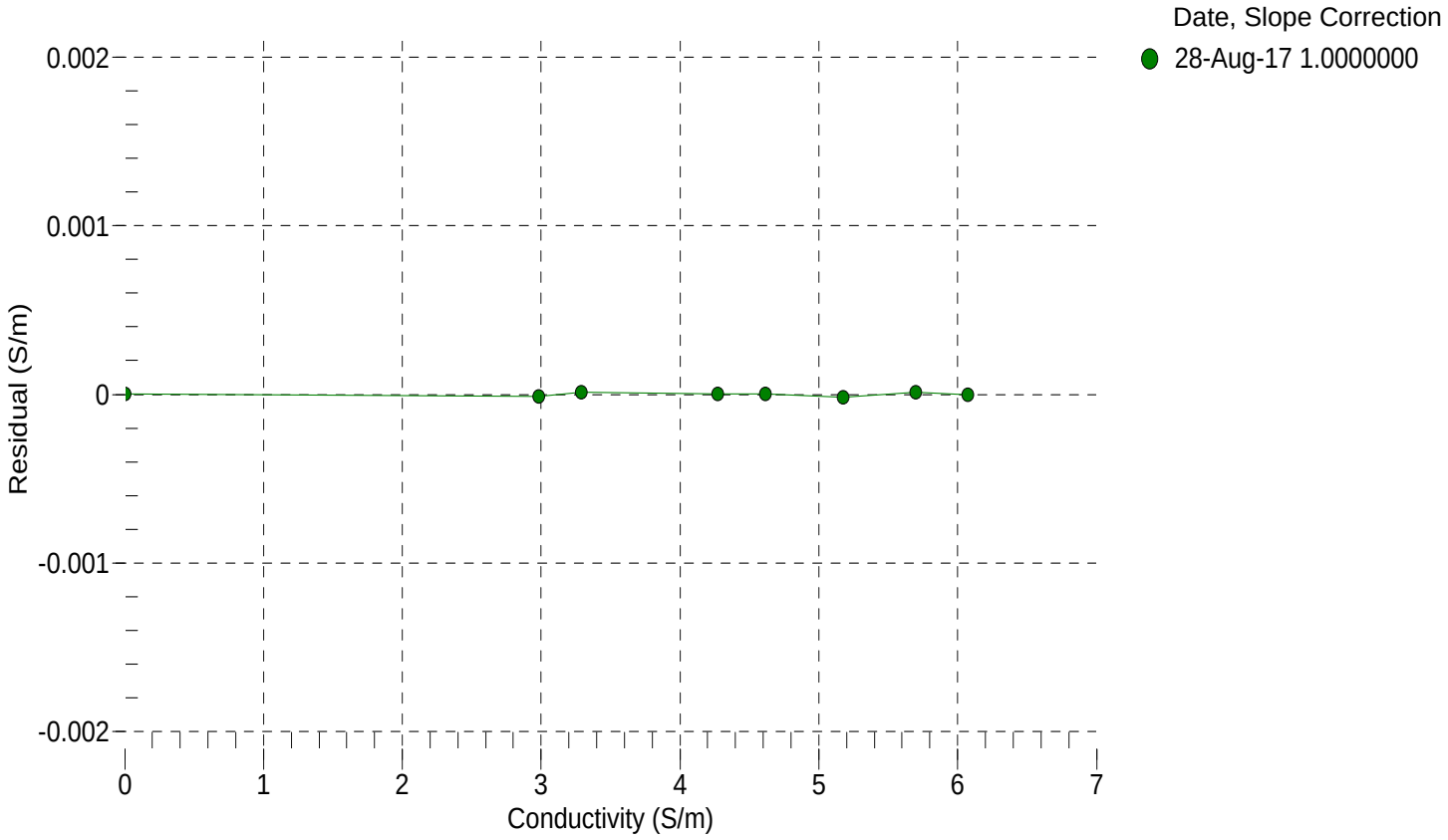
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2738.25	0.00000	0.00000
1.0000	34.8727	2.98033	5468.00	2.98031	-0.00001
4.5000	34.8529	3.28784	5674.86	3.28785	0.00001
15.0000	34.8105	4.27098	6289.84	4.27098	0.00000
18.5000	34.8014	4.61661	6491.90	4.61661	0.00000
23.9940	34.7917	5.17475	6805.20	5.17473	-0.00002
29.0000	34.7866	5.69800	7085.98	5.69802	0.00001
32.5000	34.7833	6.07089	7279.22	6.07088	-0.00000

f = Instrument Output(Hz) * sqrt(1.0 + WBOTC * t) / 1000.0

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

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

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



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SENSOR SERIAL NUMBER: 10065
CALIBRATION DATE: 22-Aug-17

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 10717051

COEFFICIENTS:

PA0 =	4.749831e-001	PTCA0 =	-3.773185e+003
PA1 =	3.932697e-004	PTCA1 =	4.405954e+001
PA2 =	-2.897809e-013	PTCA2 =	5.881639e-001
PTHA0 =	3.358224e+002	PTCB0 =	2.511350e+001
PTHA1 =	-6.262900e-005	PTCB1 =	-9.000000e-004
PTHA2 =	-1.525158e-012	PTCB2 =	0.000000e+000

PRESSURE SPAN CALIBRATION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (counts)	COMPUTED PRESSURE (PSIA)	RESIDUAL (%FSR)
14.61	33456.9	4523357.6	14.65	0.00
591.23	1500167.5	4519362.8	591.25	0.00
1167.98	2970515.8	4517726.2	1168.03	0.00
1744.83	4444208.7	4516485.6	1744.87	0.00
2321.64	5921050.1	4515381.8	2321.69	0.00
2898.46	7400931.2	4514340.8	2898.42	-0.00
2321.63	5920910.5	4514289.2	2321.64	0.00
1744.94	4444359.1	4514193.2	1744.94	-0.00
1167.96	2970100.6	4514091.4	1167.87	-0.00
591.10	1499587.6	4513753.8	591.02	-0.00
14.61	33412.2	4512924.6	14.61	0.00

THERMAL CORRECTION

TEMP (°C)	THERMISTOR OUTPUT (counts)	INSTRUMENT OUTPUT (counts)
32.50	4376663.60	35832.50
29.00	4422737.60	35613.30
23.99	4488410.40	35257.80
18.50	4560206.20	34813.10
15.00	4605978.00	34563.90
4.50	4742545.00	34048.50
1.00	4787861.80	33851.20

TEMPERATURE (°C)	SPAN (mV)
-5.00	25.12
35.00	25.08

y = thermistor output (counts)

$t = PTHA0 + PTHA1 * y + PTHA2 * y^2$

$x = \text{instrument output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$

$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$

$\text{pressure (PSIA)} = PA0 + PA1 * n + PA2 * n^2$

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