SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number:	41-10598
Instrument Firmware Version:	V 7.2.5
Zero Conductivity Frequency:	2615.75
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	10817714	2000m(2000 dBar)

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13431 NE 20th Street
Bellevue, WA 98005
USA

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

SENSOR SERIAL NUMBER: 10598
CALIBRATION DATE: 04-Mar-18

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

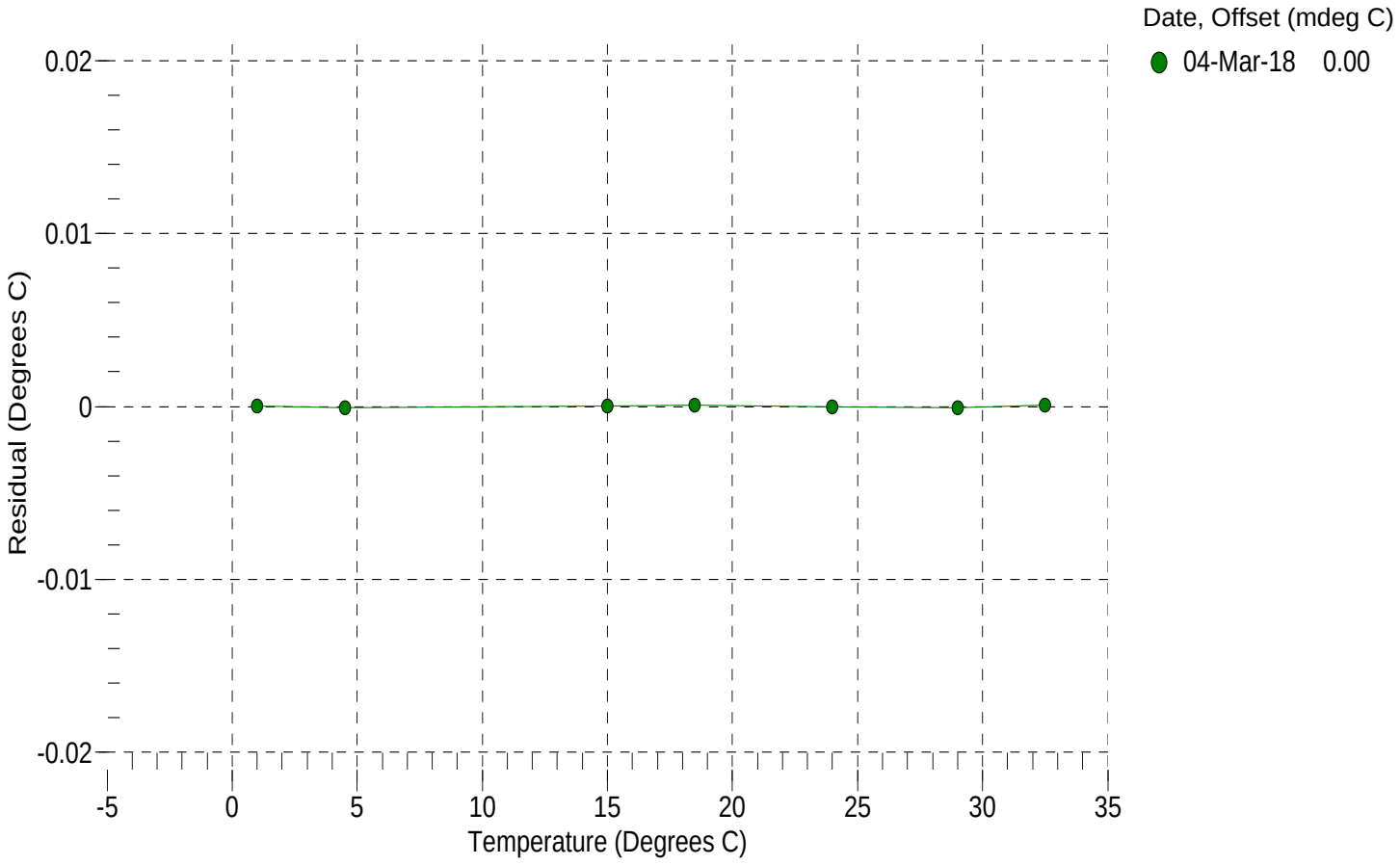
```
a0 = -7.987911e-004
a1 =  2.822341e-004
a2 = -3.156637e-006
a3 =  1.352085e-007
```

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	16918099.2	1.0000	0.0000
4.5000	14429270.7	4.4999	-0.0001
15.0000	9130760.8	15.0000	0.0000
18.5000	7888394.0	18.5001	0.0001
23.9940	6307971.0	23.9940	-0.0000
29.0000	5177046.5	28.9999	-0.0001
32.5000	4524183.3	32.5001	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: 10598
CALIBRATION DATE: 04-Mar-18

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

COEFFICIENTS:

```
g = -1.015547e+000
h =  1.489495e-001
i = -3.182206e-004
j =  4.504337e-005

CPcor = -9.5700e-008
CTcor =  3.2500e-006
WBOTC = -1.2742e-007
```

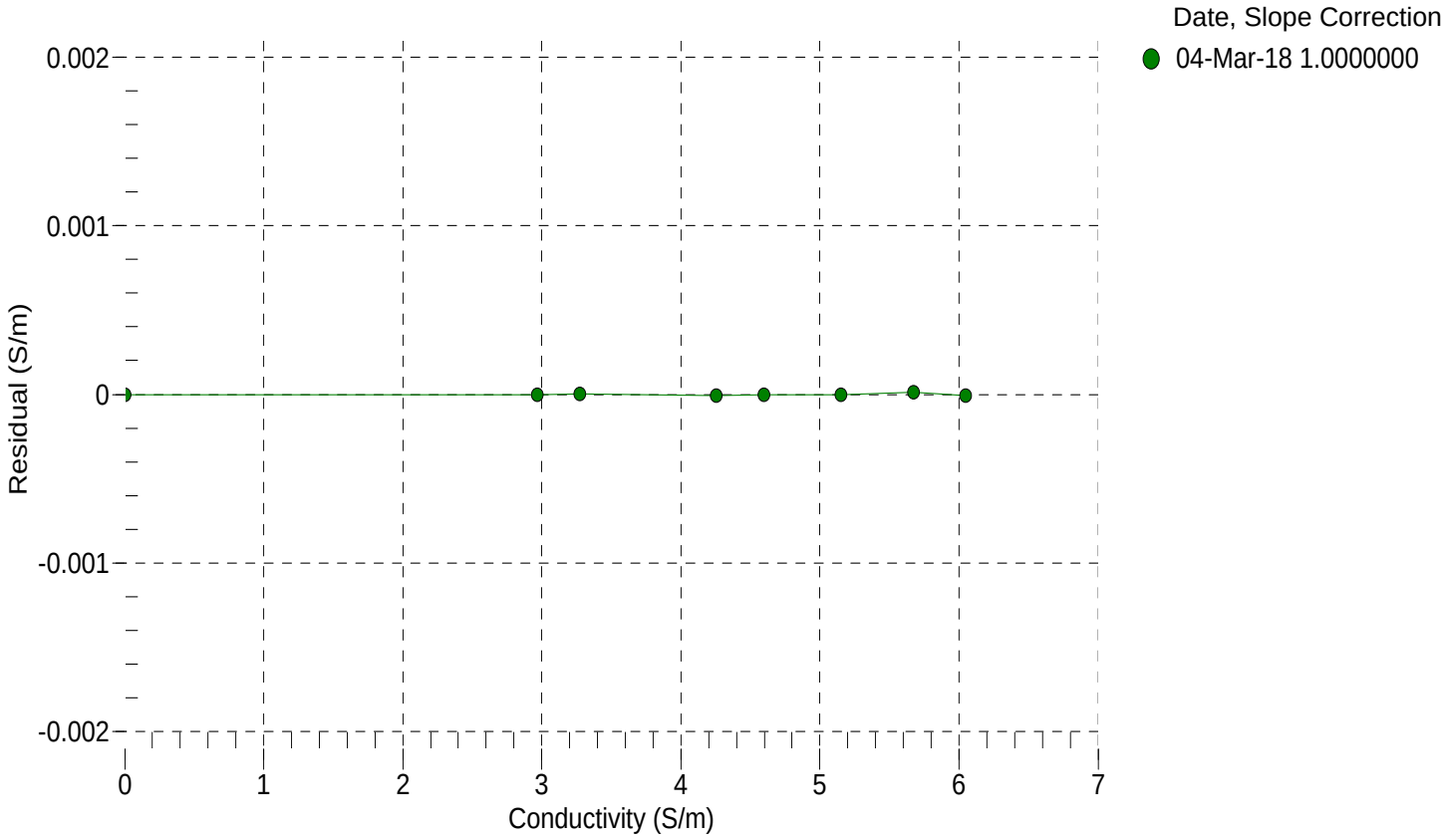
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2615.75	0.00000	0.00000
1.0000	34.7076	2.96756	5178.86	2.96756	-0.00000
4.5000	34.6885	3.27385	5373.77	3.27386	0.00000
15.0000	34.6472	4.25306	5953.49	4.25305	-0.00001
18.5000	34.6388	4.59736	6144.08	4.59735	-0.00000
23.9940	34.6296	5.15330	6439.64	5.15330	-0.00000
29.0000	34.6249	5.67449	6704.58	5.67450	0.00001
32.5000	34.6231	6.04610	6887.06	6.04609	-0.00001

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: 10598
CALIBRATION DATE: 08-Feb-18

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 10817714

COEFFICIENTS:

PA0 =	5.763526e-001	PTCA0 =	-1.413813e+003
PA1 =	3.951143e-004	PTCA1 =	8.732367e+001
PA2 =	-2.891035e-013	PTCA2 =	-9.025634e-001
PTHA0 =	3.505982e+002	PTCB0 =	3.094597e+005
PTHA1 =	-6.367266e-005	PTCB1 =	3.713674e+000
PTHA2 =	-1.645866e-012	PTCB2 =	-1.448924e-001

PRESSURE SPAN CALIBRATION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (counts)	COMPUTED PRESSURE (PSIA)	RESIDUAL (%FSR)
14.68	35833.6	4617858.4	14.72	0.00
591.94	1498592.1	4613772.4	592.00	0.00
1169.26	2964697.5	4612525.6	1169.36	0.00
1746.65	4434062.0	4611405.2	1746.76	0.00
2324.05	5906644.0	4610338.0	2324.18	0.00
2901.40	7381808.7	4609001.0	2901.35	-0.00
2324.07	5906270.0	4608854.4	2324.03	-0.00
1746.77	4433903.0	4608540.2	1746.70	-0.00
1169.44	2964335.8	4608369.4	1169.21	-0.01
591.85	1498192.2	4608297.0	591.83	-0.00
14.68	35722.3	4607989.4	14.66	-0.00

THERMAL CORRECTION

TEMP (°C)	THERMISTOR OUTPUT (counts)	INSTRUMENT OUTPUT (counts)
32.50	4477604.20	37593.00
29.00	4522169.40	37544.01
23.99	4585841.80	37365.72
18.50	4655435.20	37077.07
15.00	4699815.00	36802.70
4.50	4831960.00	36079.80
1.00	4876044.00	35873.89

TEMPERATURE (°C)	SPAN
2.18	309467.16
23.04	309468.40
32.58	309426.96

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