



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-11689
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2615.54
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	11076167	2000m(2000 dBar)



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 www.seabird.com

SENSOR SERIAL NUMBER: 11689
 CALIBRATION DATE: 26-Mar-19

SBE 41 TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

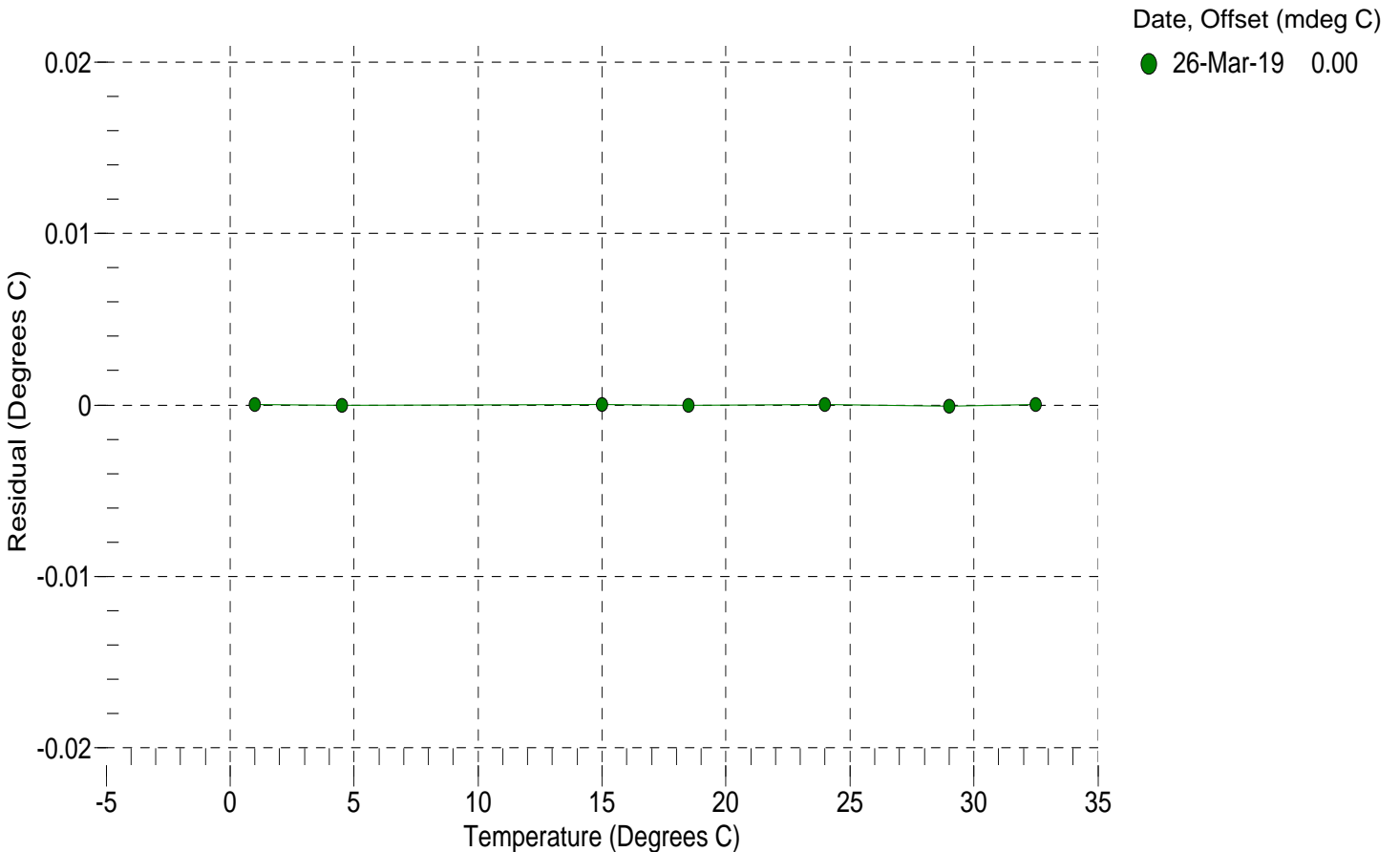
a0 = -9.022078e-004
 a1 = 3.031063e-004
 a2 = -4.277991e-006
 a3 = 1.647695e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	13379089.5	1.0000	0.0000
4.5000	11449413.2	4.5000	-0.0000
15.0000	7315356.3	15.0000	0.0000
18.5000	6339427.2	18.5000	-0.0000
24.0000	5091889.2	24.0000	0.0000
29.0000	4197273.4	28.9999	-0.0001
32.5001	3678298.5	32.5001	0.0000

n = Instrument Output (counts)

$$\text{Temperature ITS-90 (°C)} = 1 / \{a_0 + a_1[\ln(n)] + a_2[\ln^2(n)] + a_3[\ln^3(n)]\} - 273.15$$

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 = -1.008272e+000 CPcor = -9.5700e-008
 h = 1.480926e-001 CTcor = 3.2500e-006
 i = -4.084036e-004 WBOTC = -2.5485e-007
 j = 5.286394e-005

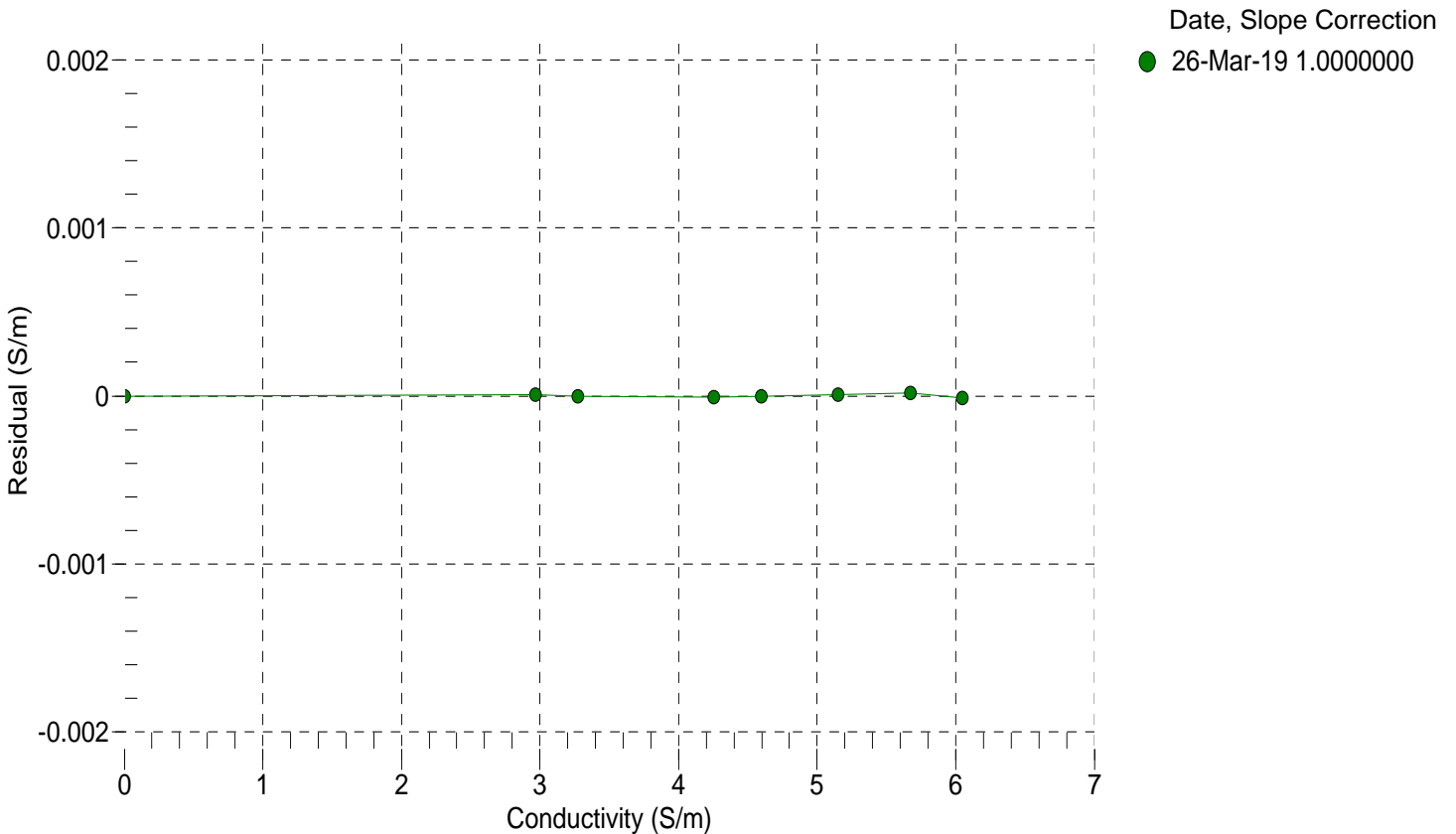
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2615.54	0.00000	0.00000
1.0000	34.7075	2.96755	5193.61	2.96756	0.00001
4.5000	34.6881	3.27382	5389.42	3.27381	-0.00000
15.0000	34.6461	4.25294	5971.71	4.25293	-0.00001
18.5000	34.6371	4.59716	6163.07	4.59715	-0.00000
24.0000	34.6271	5.15358	6460.10	5.15359	0.00001
29.0000	34.6213	5.67396	6725.67	5.67398	0.00002
32.5001	34.6174	6.04523	6908.67	6.04521	-0.00001

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

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

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

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





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SENSOR SERIAL NUMBER: 11689
 CALIBRATION DATE: 14-Mar-19

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 11076167

COEFFICIENTS:

PA0 =	3.077252e-001	PTCA0 =	-6.582053e+003
PA1 =	3.956722e-004	PTCA1 =	1.897963e+001
PA2 =	-2.818026e-013	PTCA2 =	6.560380e-001
PTHA0 =	2.973017e+002	PTCB0 =	3.085374e+005
PTHA1 =	-6.245261e-005	PTCB1 =	9.331825e+000
PTHA2 =	-8.482642e-013	PTCB2 =	-1.521645e-001

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)
14.77	30846.7	4159018.2	14.80	0.00	32.50	4020505.60	32165.80
591.35	1490292.4	4156417.2	591.38	0.00	29.00	4070961.20	32031.72
1169.19	2956154.9	4155726.6	1169.29	0.00	24.00	4143000.80	31767.15
1747.08	4424999.8	4155086.2	1747.16	0.00	18.50	4222090.80	31463.74
2325.02	5897172.6	4154446.0	2325.12	0.00	15.00	4272342.00	31285.91
2902.95	7372098.8	4153891.2	2902.93	-0.00	4.50	4422713.60	30998.61
2325.05	5896815.0	4154351.6	2324.98	-0.00	1.00	4472694.20	30920.60
1747.24	4425086.9	4154771.8	1747.19	-0.00			
1169.08	2955397.1	4155178.6	1168.99	-0.00			
591.04	1489202.1	4155591.2	590.95	-0.00			
14.79	30854.4	4145896.8	14.79	-0.00			

TEMPERATURE (°C)	SPAN
1.14	308547.83
20.40	308664.47
33.26	308679.49

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)

● 14-Mar-19 0.00

