



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-10661
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2607.63
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	10719987	2000m(2000 dBar)



Sea-Bird Scientific
 13431 NE 20th Street
 Bellevue, WA 98005
 USA

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

SENSOR SERIAL NUMBER: 10661
 CALIBRATION DATE: 02-Mar-18

SBE 41 TEMPERATURE CALIBRATION DATA
 ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

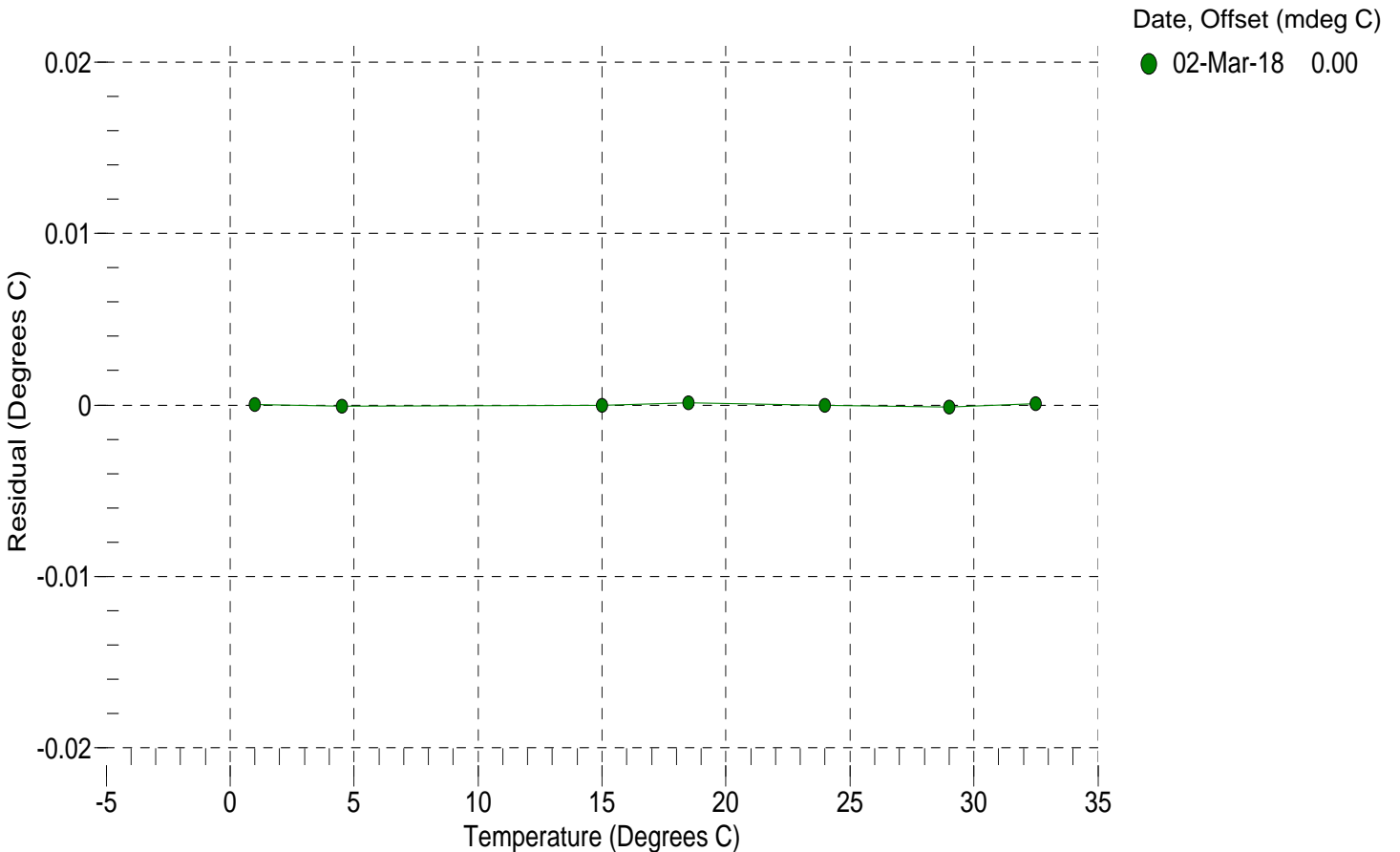
a0 = -8.120792e-004
 a1 = 2.899446e-004
 a2 = -3.636845e-006
 a3 = 1.454716e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0001	15287107.0	1.0001	0.0000
4.5001	13034788.7	4.5000	-0.0001
15.0001	8242226.9	15.0001	-0.0000
18.5001	7119067.6	18.5002	0.0001
23.9941	5690810.7	23.9941	-0.0000
29.0001	4669151.8	29.0000	-0.0001
32.5001	4079526.7	32.5002	0.0001

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





Sea-Bird Scientific
 13431 NE 20th Street
 Bellevue, WA 98005
 USA

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

SENSOR SERIAL NUMBER: 10661
 CALIBRATION DATE: 02-Mar-18

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

COEFFICIENTS:

g = -9.991687e-001 CPcor = -9.5700e-008
 h = 1.476801e-001 CTcor = 3.2500e-006
 i = -4.220298e-004 WBOTC = 1.2781e-007
 j = 5.323404e-005

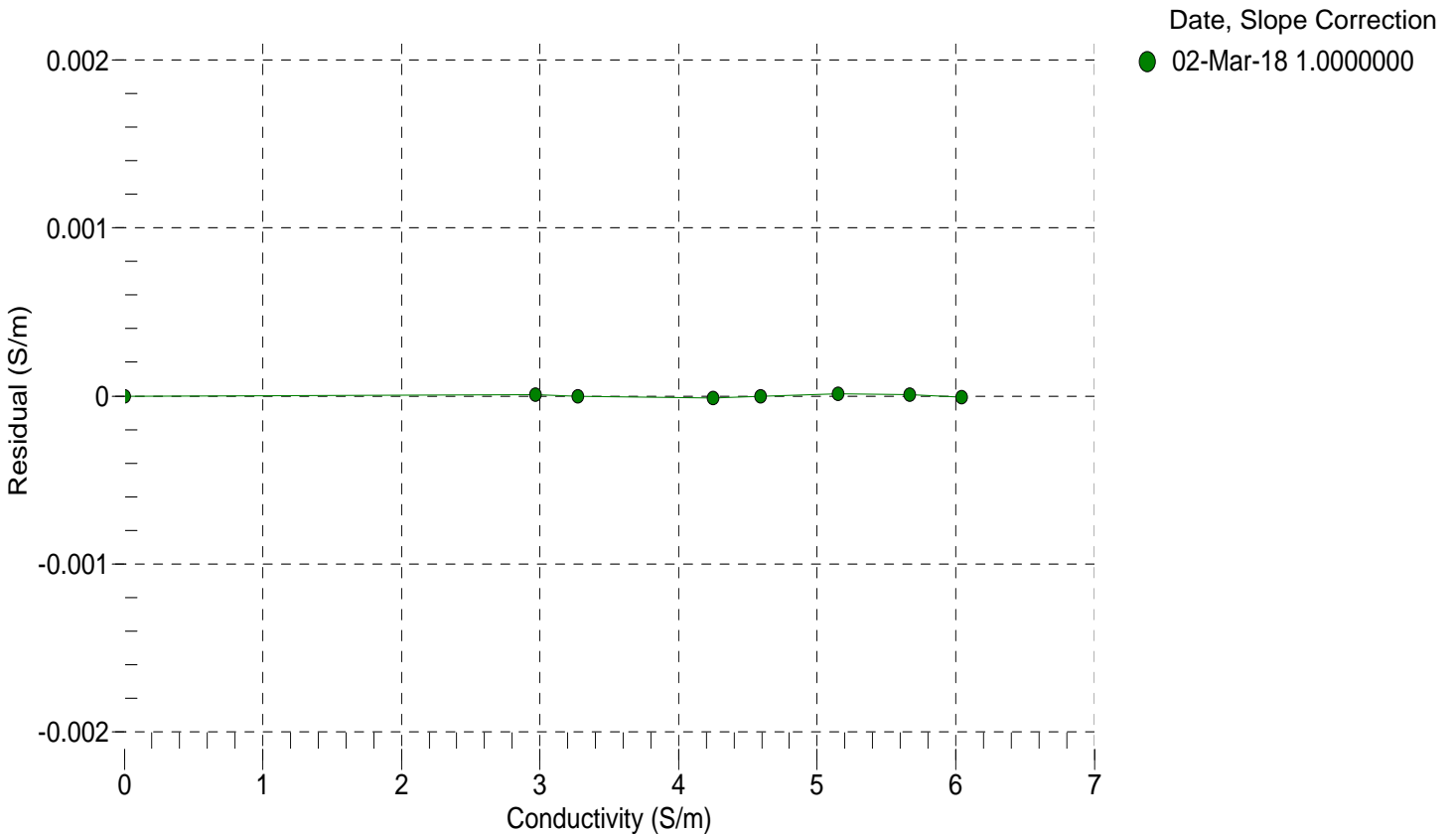
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2607.63	0.00000	0.00000
1.0001	34.6760	2.96512	5194.42	2.96513	0.00001
4.5001	34.6569	3.27117	5390.71	3.27117	-0.00000
15.0001	34.6156	4.24960	5974.35	4.24959	-0.00001
18.5001	34.6070	4.59360	6166.16	4.59360	-0.00000
23.9941	34.5978	5.14910	6463.55	5.14911	0.00001
29.0001	34.5929	5.66984	6730.05	5.66985	0.00001
32.5001	34.5901	6.04100	6913.51	6.04099	-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





Sea-Bird Scientific
 13431 NE 20th Street
 Bellevue, WA 98005
 USA

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

SENSOR SERIAL NUMBER: 10661
 CALIBRATION DATE: 27-Feb-18

SBE 41 PRESSURE CALIBRATION DATA
 2900 psia S/N 10719987

COEFFICIENTS:

PA0 =	9.998676e-001	PTCA0 =	4.748674e+003
PA1 =	3.938247e-004	PTCA1 =	2.183852e+002
PA2 =	-2.563309e-013	PTCA2 =	-4.689391e+000
PTHA0 =	3.420232e+002	PTCB0 =	3.091917e+005
PTHA1 =	-6.408331e-005	PTCB1 =	-9.735892e+001
PTHA2 =	-1.422911e-012	PTCB2 =	3.167138e+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	41866.2	4537736.4	14.65	0.00	32.50	4400122.80	42200.80
592.16	1506977.4	4536146.2	592.20	0.00	29.00	4445739.00	42481.25
1169.72	2975184.0	4535162.0	1169.85	0.00	23.99	4510928.00	42682.68
1747.46	4446286.0	4534329.8	1747.52	0.00	18.50	4582283.00	42540.90
2325.17	5920304.2	4533457.2	2325.21	0.00	15.00	4627653.20	42263.50
2902.82	7397127.9	4532625.2	2902.86	0.00	4.50	4763006.60	40920.45
2325.21	5920116.9	4532889.8	2325.12	-0.00	1.00	4808337.80	40348.85
1747.39	4445712.9	4533013.8	1747.27	-0.00			
1169.78	2974990.2	4533141.6	1169.75	-0.00			
591.91	1506165.2	4533351.8	591.86	-0.00			
14.64	41776.9	4533084.0	14.61	-0.00			

TEMPERATURE (°C)	SPAN
4.27	308833.97
25.75	308784.88
34.78	309636.52

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)

● 27-Feb-18 0.00

