



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-12421
Instrument Firmware Version: V 7.2.5
Zero Conductivity Frequency: 2548.17
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	Kistler	5361164	4000m(7000 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: 12421
CALIBRATION DATE: 06-Jan-20

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

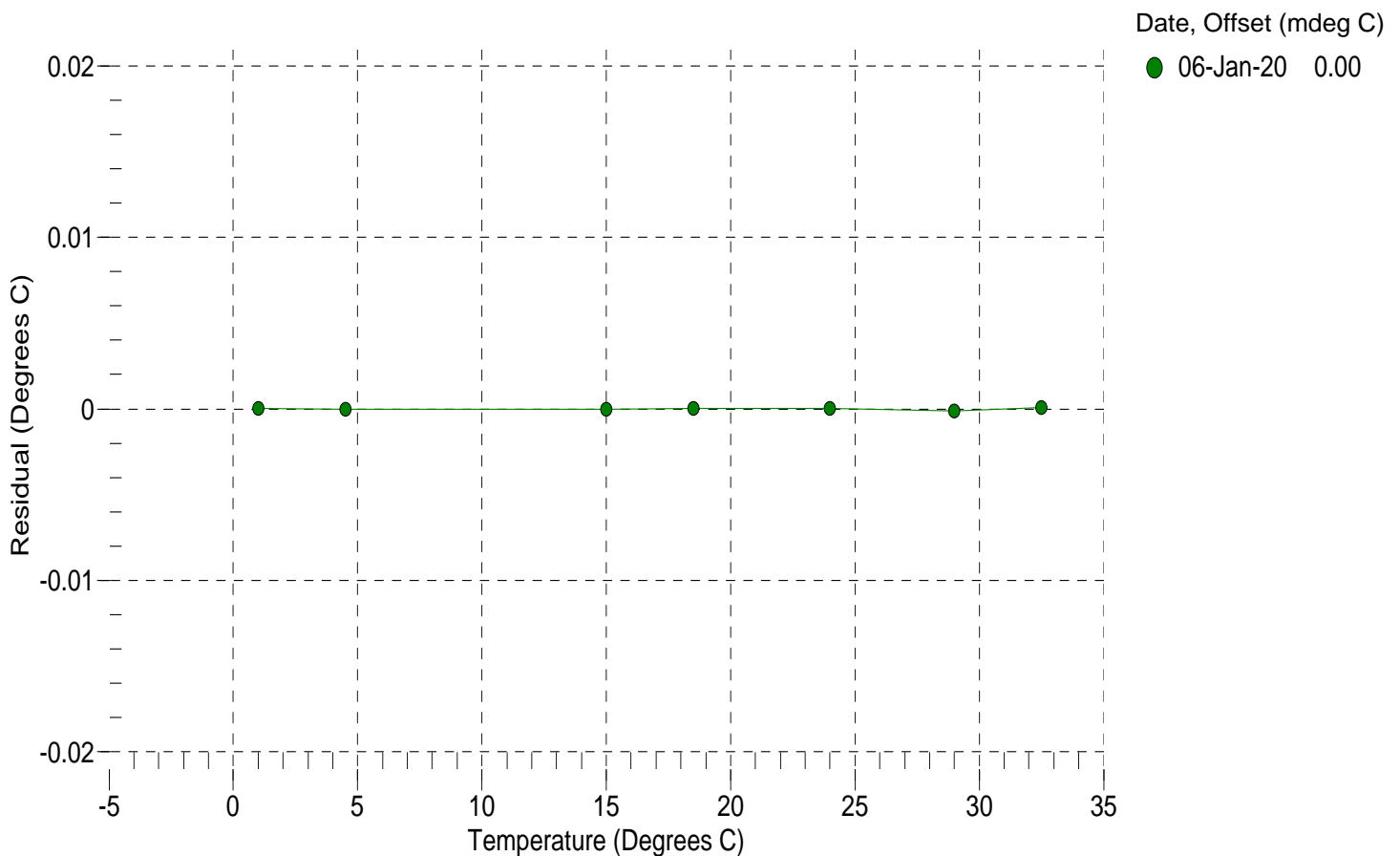
a0 = -8.836137e-004
a1 = 2.976957e-004
a2 = -3.957375e-006
a3 = 1.564651e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14346192.0	1.0000	0.0000
4.5000	12270111.1	4.5000	-0.0000
15.0000	7827193.2	15.0000	-0.0000
18.5000	6779523.0	18.5000	0.0000
23.9940	5442474.2	23.9940	0.0000
29.0001	4482161.3	29.0000	-0.0001
32.4999	3926179.4	32.5000	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 Scientific
13431 NE 20th Street
Bellevue, WA 98005
USA

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

SENSOR SERIAL NUMBER: 12421
CALIBRATION DATE: 06-Jan-20

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

COEFFICIENTS:

g = -1.013778e+000
h = 1.567955e-001
i = -4.026574e-004
j = 5.548318e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 1.6350e-007

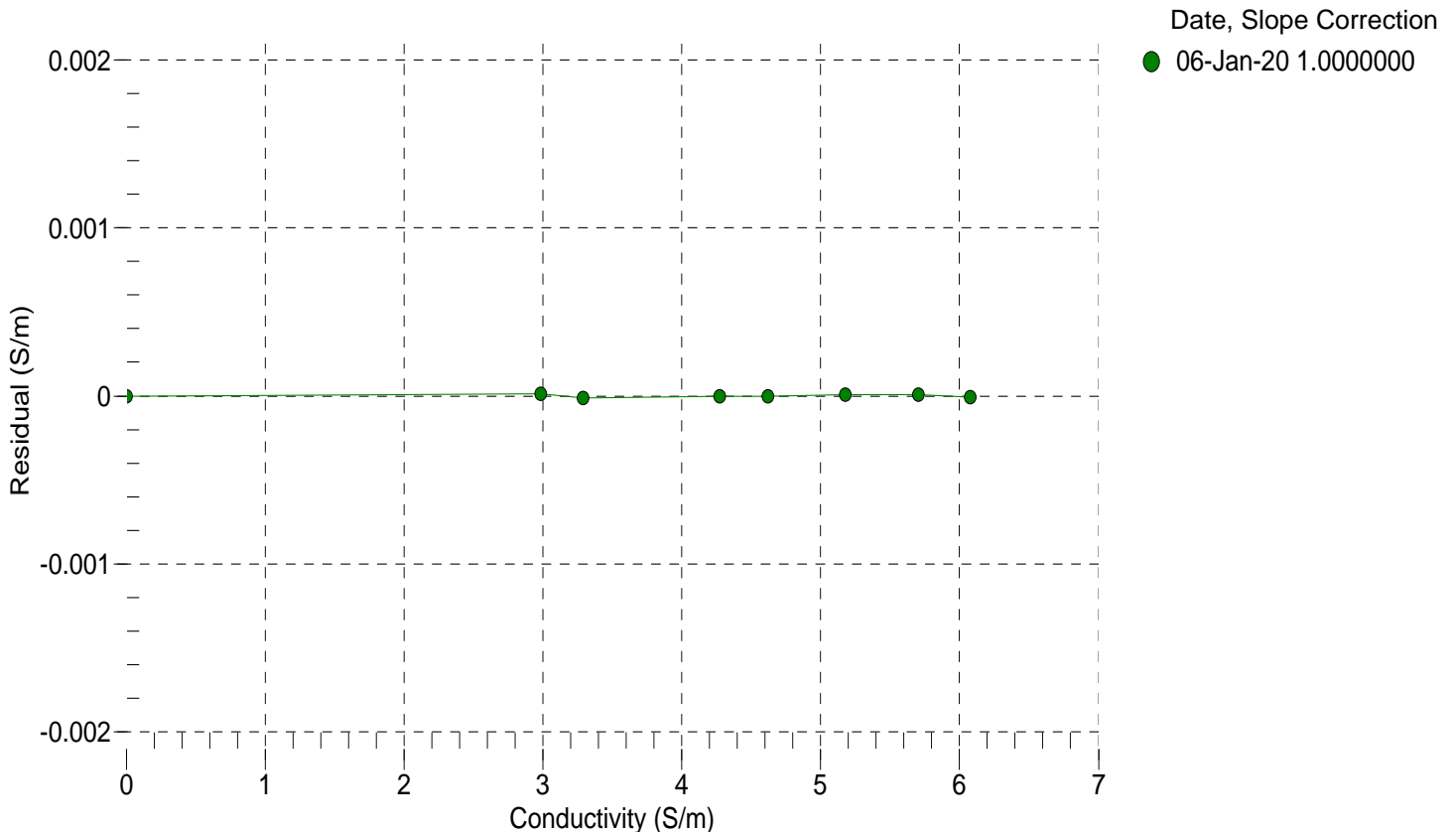
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2548.17	0.00000	0.00000
1.0000	34.9095	2.98317	5058.89	2.98318	0.00001
4.5000	34.8906	3.29104	5249.57	3.29103	-0.00001
15.0000	34.8494	4.27524	5816.66	4.27524	-0.00000
18.5000	34.8411	4.62130	6003.06	4.62130	-0.00000
23.9940	34.8319	5.18007	6292.08	5.18007	0.00001
29.0001	34.8269	5.70387	6551.10	5.70388	0.00001
32.4999	34.8233	6.07706	6729.36	6.07705	-0.00001

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

t = temperature (°C); p = pressure (decibars); $\delta = \text{CTcor}$; $\epsilon = \text{CPcor}$;

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

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: 12421
CALIBRATION DATE: 03-Jan-20

SBE 41 PRESSURE CALIBRATION DATA
10153 psia S/N 5361164

COEFFICIENTS:

PA0 =	5.792113e-001	PTCA0 =	2.853216e+003
PA1 =	1.325462e-003	PTCA1 =	-5.256871e+001
PA2 =	4.272270e-012	PTCA2 =	3.192228e+000
PTHA0 =	3.109144e+002	PTCB0 =	1.014180e+002
PTHA1 =	-8.787575e-005	PTCB1 =	-4.942966e-003
PTHA2 =	2.704485e-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)
14.48	14111.2	3703876.4	14.94	0.00	32.50	3557868.20	15961.50
2002.54	1502704.7	3703148.2	1999.81	-0.03	29.00	3608942.60	15456.51
3989.16	2979321.8	3702503.0	3987.46	-0.02	23.99	3682414.60	14882.51
5975.89	4443008.7	3701834.4	5976.15	0.00	18.50	3763390.40	14418.93
7963.06	5892768.1	3701427.0	7964.00	0.01	15.00	3815494.80	14222.97
9950.47	7326956.7	3701120.4	9948.22	-0.02	4.50	3972740.00	14129.39
7962.91	5893391.0	3702181.2	7964.85	0.02	1.00	4025336.20	14248.87
5975.48	4443946.5	3703013.4	5977.42	0.02			
3988.54	2980152.1	3703769.0	3988.58	0.00	TEMPERATURE (°C)		SPAN
2001.62	1503424.3	3704401.0	2000.77	-0.01	-5.11		101.44
14.49	15234.0	3704743.8	16.44	0.02	34.87		101.25

y = thermistor output (counts)

t = PTHA0 + PTHA1 * y + PTHA2 * y²

x = instrument output - PTCA0 - PTCA1 * t - PTCA2 * t²

n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t²)

pressure (PSIA) = PA0 + PA1 * n + PA2 * n²

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

Date, Offset (%FSR)

● 03-Jan-20 -0.00

