



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-12963
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2579.18
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	11515301	2000m(2000 dBar)



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www.seabird.com

SENSOR SERIAL NUMBER: 12963
CALIBRATION DATE: 20-Jun-20

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

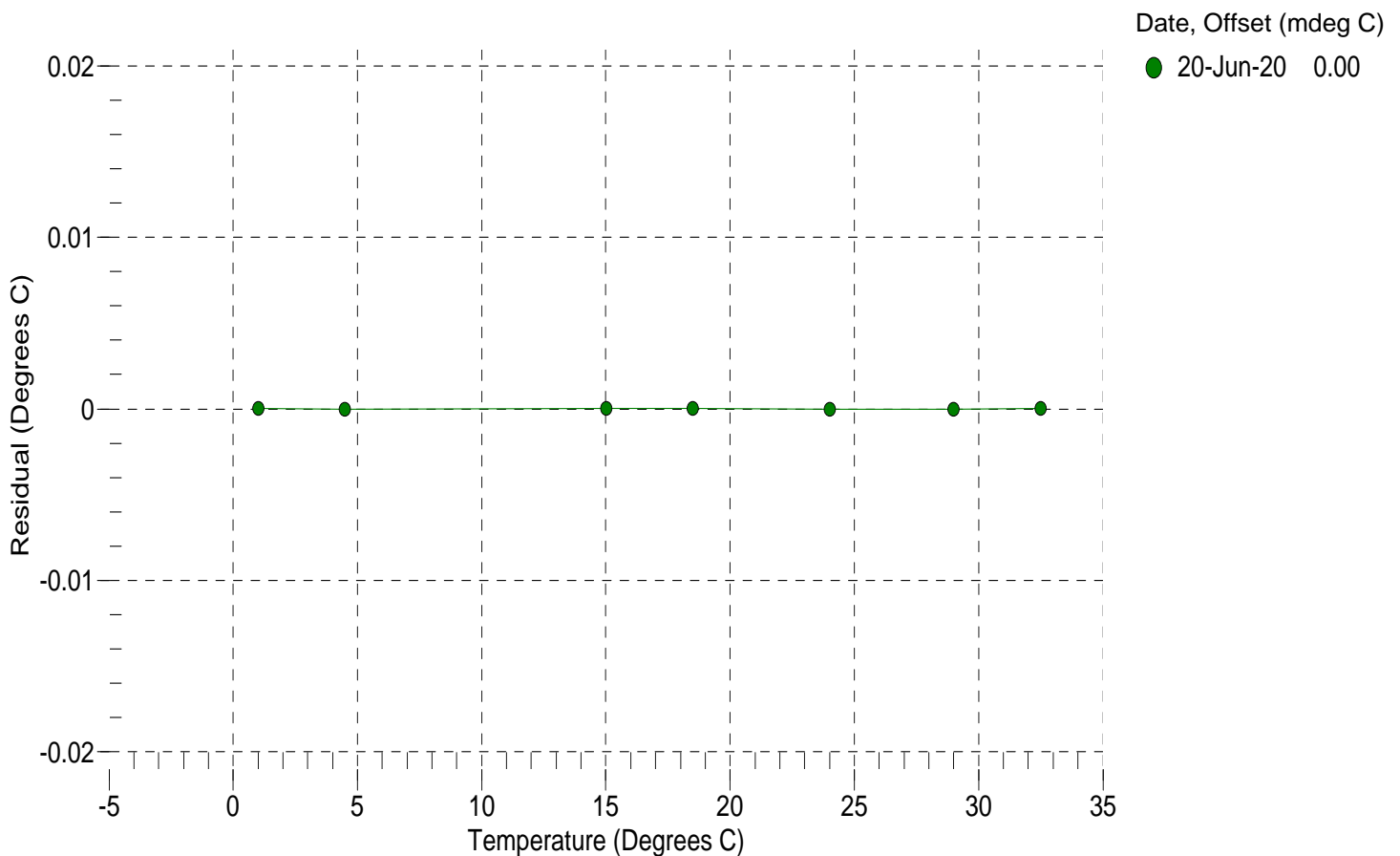
a0 = -9.489203e-004
a1 = 2.995580e-004
a2 = -4.068893e-006
a3 = 1.563593e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	17923340.8	1.0000	0.0000
4.5000	15327616.3	4.5000	-0.0000
15.0000	9773975.9	15.0000	0.0000
18.5000	8464775.3	18.5000	0.0000
24.0000	6792572.3	24.0000	-0.0000
28.9999	5594521.3	28.9999	-0.0000
32.5000	4900018.2	32.5000	0.0000

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





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

COEFFICIENTS:

g = -1.022367e+000
h = 1.541780e-001
i = -3.121147e-004
j = 4.729875e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 5.8152e-007

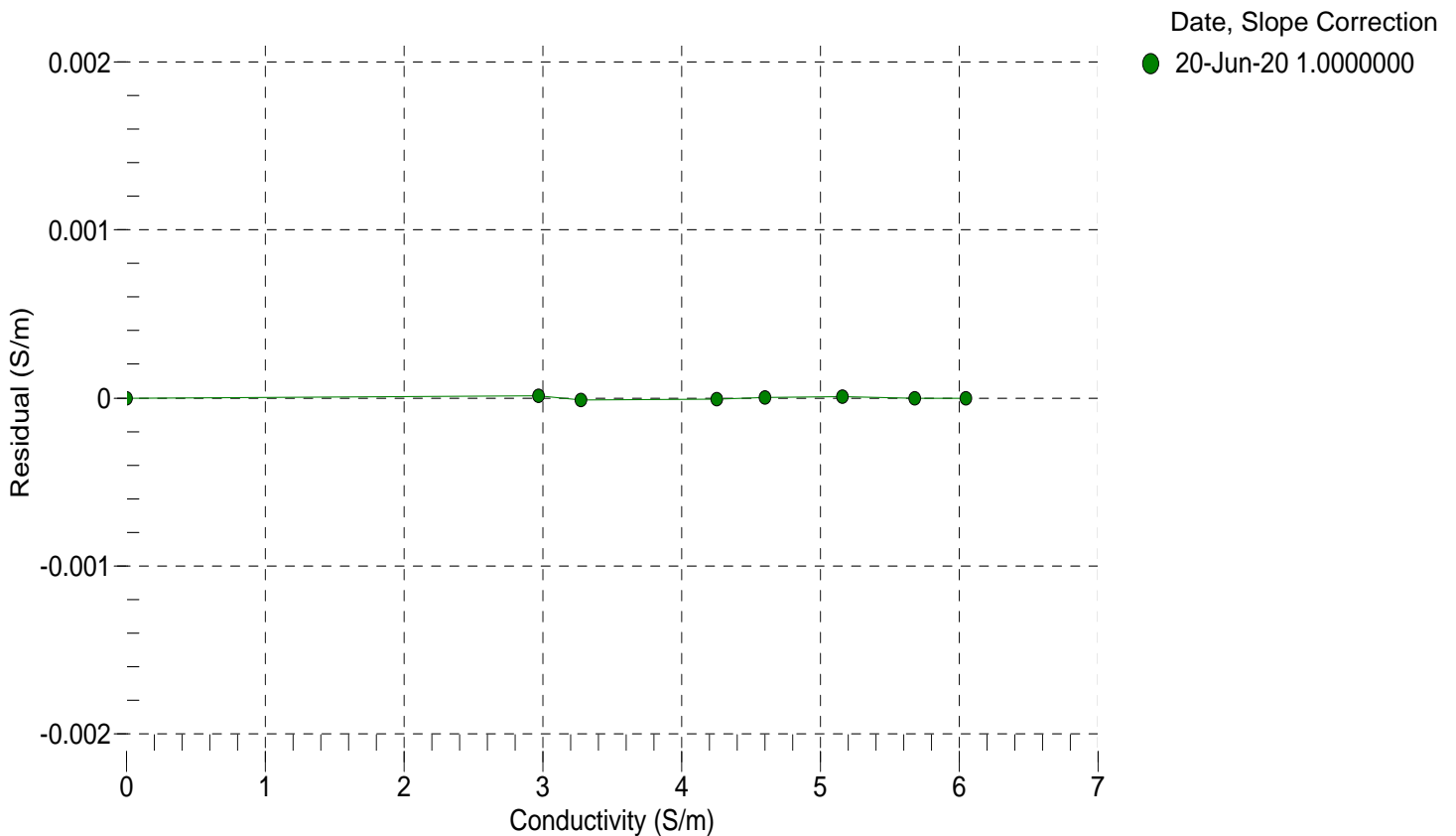
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2579.18	0.00000	0.00000
1.0000	34.7401	2.97007	5094.72	2.97008	0.00001
4.5000	34.7218	3.27669	5286.15	3.27668	-0.00001
15.0000	34.6829	4.25698	5855.65	4.25697	-0.00001
18.5000	34.6750	4.60164	6042.88	4.60165	0.00000
24.0000	34.6673	5.15891	6333.61	5.15892	0.00001
28.9999	34.6644	5.68022	6593.65	5.68022	-0.00000
32.5000	34.6633	6.05232	6772.97	6.05232	-0.00000

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

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





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CALIBRATION DATE: 15-Jun-20

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11515301

COEFFICIENTS:

PA0 =	-1.673074e-002	PTCA0 =	-9.543460e+003
PA1 =	3.927693e-004	PTCA1 =	6.144727e+001
PA2 =	-2.894282e-013	PTCA2 =	-2.890664e+000
PTHA0 =	3.263551e+002	PTCB0 =	3.111493e+005
PTHA1 =	-6.299598e-005	PTCB1 =	1.146835e+001
PTHA2 =	-1.291448e-012	PTCB2 =	-1.572886e-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)
14.44	27415.3	4430102.6	14.51	0.00	32.50	4287796.80	27764.80
590.93	1497854.4	4422743.6	591.08	0.01	29.00	4334943.40	28283.90
1167.65	2971900.2	4420802.8	1167.79	0.00	24.00	4402269.20	28804.00
1744.44	4449316.8	4419404.4	1744.57	0.00	18.50	4476152.60	29055.64
2321.18	5929732.5	4418089.4	2321.24	0.00	15.00	4523106.20	29073.51
2897.86	7413117.8	4416861.8	2897.80	-0.00	4.50	4663290.60	29056.99
2321.07	5929219.7	4416675.8	2321.04	-0.00	1.00	4709939.20	29011.11
1744.60	4449297.9	4416462.2	1744.56	-0.00	<div>TEMPERATURE (°C) SPAN</div> <div>1.18 311162.61</div> <div>20.45 311318.02</div> <div>33.57 311357.01</div>		
1167.34	2970569.6	4416301.8	1167.28	-0.00			
593.75	1503520.1	4416169.2	593.31	-0.02			
14.44	27348.5	4414203.8	14.51	0.00			

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)

● 15-Jun-20 0.00

