



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-14277
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2598.54
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	11829152	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 14277
CALIBRATION DATE: 05-May-21

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

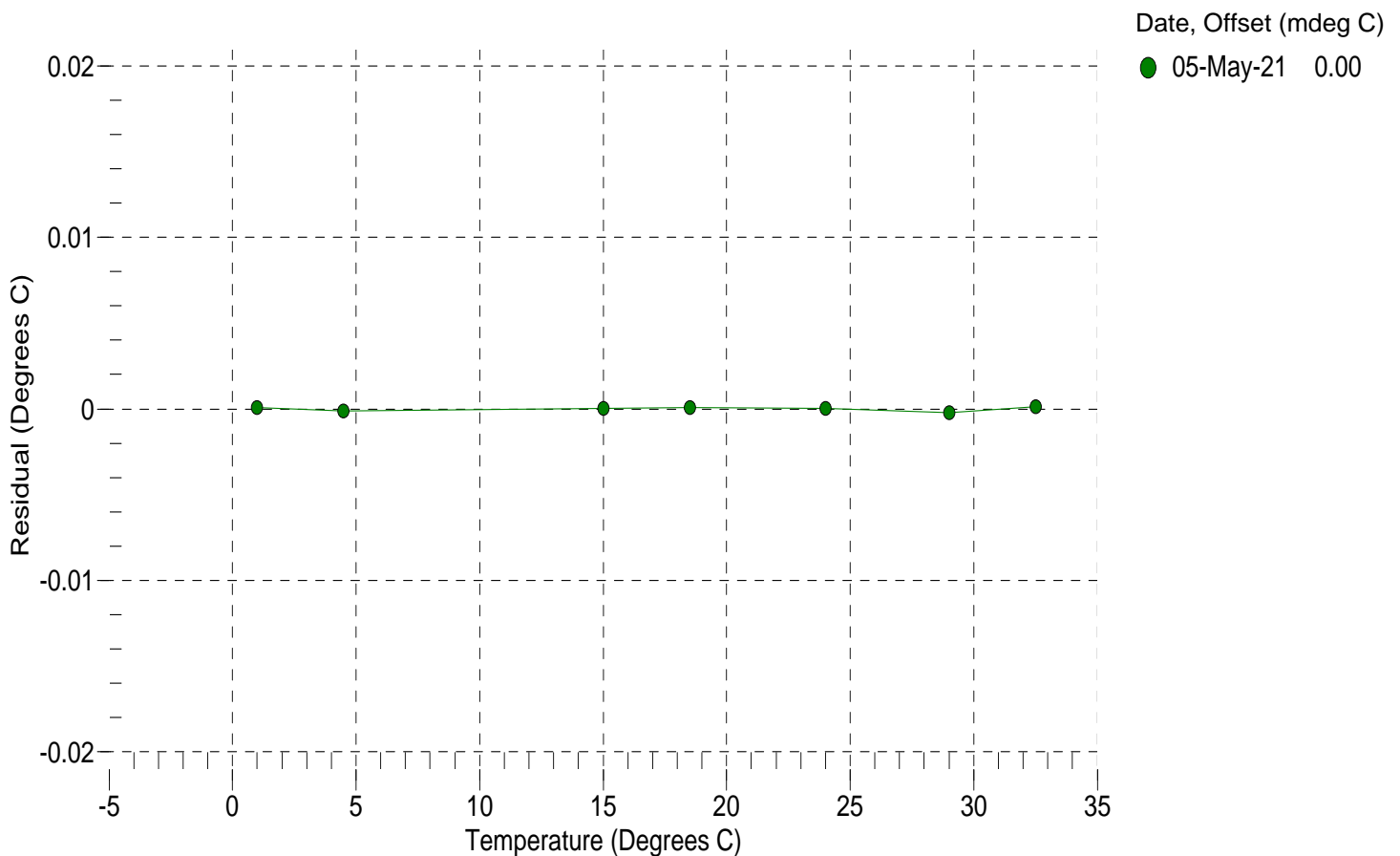
a0 = -8.352536e-004
a1 = 2.891371e-004
a2 = -3.447512e-006
a3 = 1.442635e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	14784453.5	1.0001	0.0001
4.5000	12635147.3	4.4999	-0.0001
15.0000	8042180.3	15.0000	0.0000
18.5000	6960869.0	18.5001	0.0001
24.0000	5580803.7	24.0000	0.0000
29.0000	4592911.5	28.9998	-0.0002
32.5000	4020573.8	32.5001	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





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

COEFFICIENTS:

g = -1.028627e+000
h = 1.531724e-001
i = -4.810760e-004
j = 6.102987e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 1.2826e-007

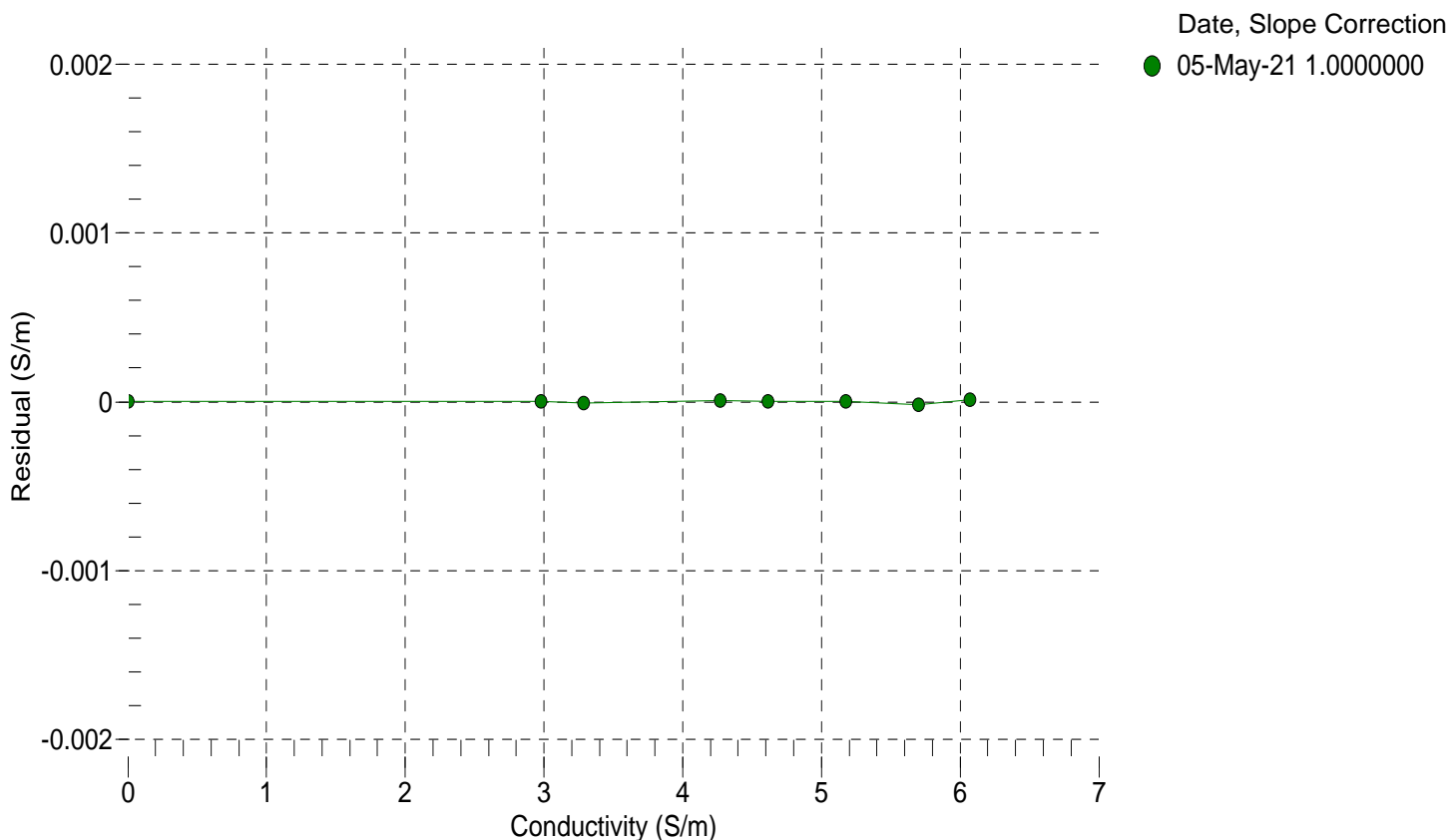
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2598.54	0.00000	0.00000
1.0000	34.8738	2.98041	5130.45	2.98041	0.00000
4.5000	34.8549	3.28801	5323.12	3.28800	-0.00001
15.0000	34.8147	4.27144	5896.23	4.27144	0.00001
18.5000	34.8067	4.61723	6084.62	4.61724	0.00000
24.0000	34.7983	5.17624	6377.08	5.17625	0.00000
29.0000	34.7944	5.69913	6638.60	5.69912	-0.00002
32.5000	34.7926	6.07232	6818.92	6.07234	0.00001

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

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

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: 14277
CALIBRATION DATE: 28-Apr-21

SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 11829152

COEFFICIENTS:

PA0 =	3.491860e-001	PTCA0 =	2.561696e+003
PA1 =	3.896415e-004	PTCA1 =	7.038973e+001
PA2 =	-2.921829e-013	PTCA2 =	-1.221997e+000
PTHA0 =	3.238531e+002	PTCB0 =	3.182439e+005
PTHA1 =	-6.176625e-005	PTCB1 =	-5.032771e+000
PTHA2 =	-1.427783e-012	PTCB2 =	4.978867e-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)
14.65	40246.1	4472912.8	14.68	0.00	32.50	4291340.80	41678.00
591.65	1523293.0	4457104.0	591.67	0.00	29.00	4338571.20	41803.13
1168.82	3010258.3	4455489.4	1168.89	0.00	24.00	4405913.20	41798.89
1745.98	4500442.8	4453215.2	1746.06	0.00	18.50	4479780.80	41626.13
2323.21	5994207.3	4451752.8	2323.31	0.00	15.00	4526683.20	41447.92
2900.45	7490944.2	4450432.0	2900.40	-0.00	4.50	4666918.80	41030.74
2323.35	5994244.3	4450170.0	2323.31	-0.00	1.00	4713433.60	40830.98
1746.61	4501833.0	4449867.0	1746.58	-0.00	TEMPERATURE (°C) SPAN		
1168.92	3010163.6	4449572.2	1168.83	-0.00			
591.77	1523329.0	4448892.8	591.66	-0.00			
14.65	40310.4	4439977.4	14.68	0.00			
					1.96	318235.93	
					20.67	318352.63	
					32.96	318618.91	

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)

● 28-Apr-21 0.00

