



SEA-BIRD
SCIENTIFIC

SBE41-CP ALACE

Instrument Configuration

Instrument Serial Number: 41-17483
Instrument Firmware Version: 7.2.5
Zero Conductivity Frequency: 2549.32
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	12091715	2000m(2000 dBar)



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SENSOR SERIAL NUMBER: 17483
CALIBRATION DATE: 17-Apr-22

SBE 41 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

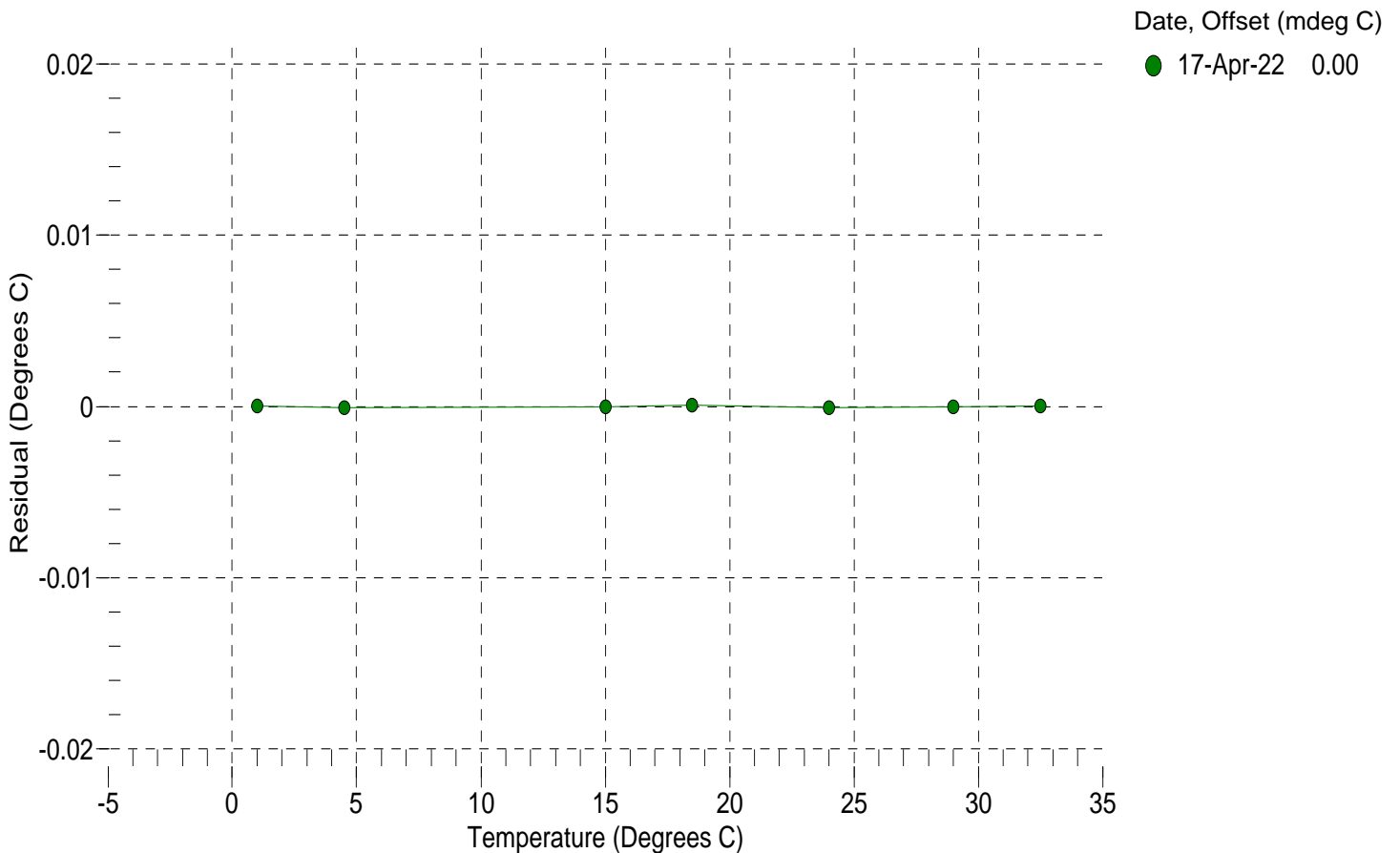
a0 = -9.333155e-004
a1 = 2.967816e-004
a2 = -3.930140e-006
a3 = 1.527699e-007

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	18467938.4	1.0000	0.0000
4.5000	15785615.7	4.4999	-0.0001
15.0000	10051844.5	15.0000	-0.0000
18.5000	8701463.9	18.5001	0.0001
23.9940	6979387.8	23.9939	-0.0001
29.0000	5743485.1	29.0000	-0.0000
32.5001	5028397.3	32.5001	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 = -1.024387e+000
h = 1.582387e-001
i = -3.832602e-004
j = 5.534569e-005

CPcor = -9.5700e-008
CTcor = 3.2500e-006
WBOTC = 1.6343e-007

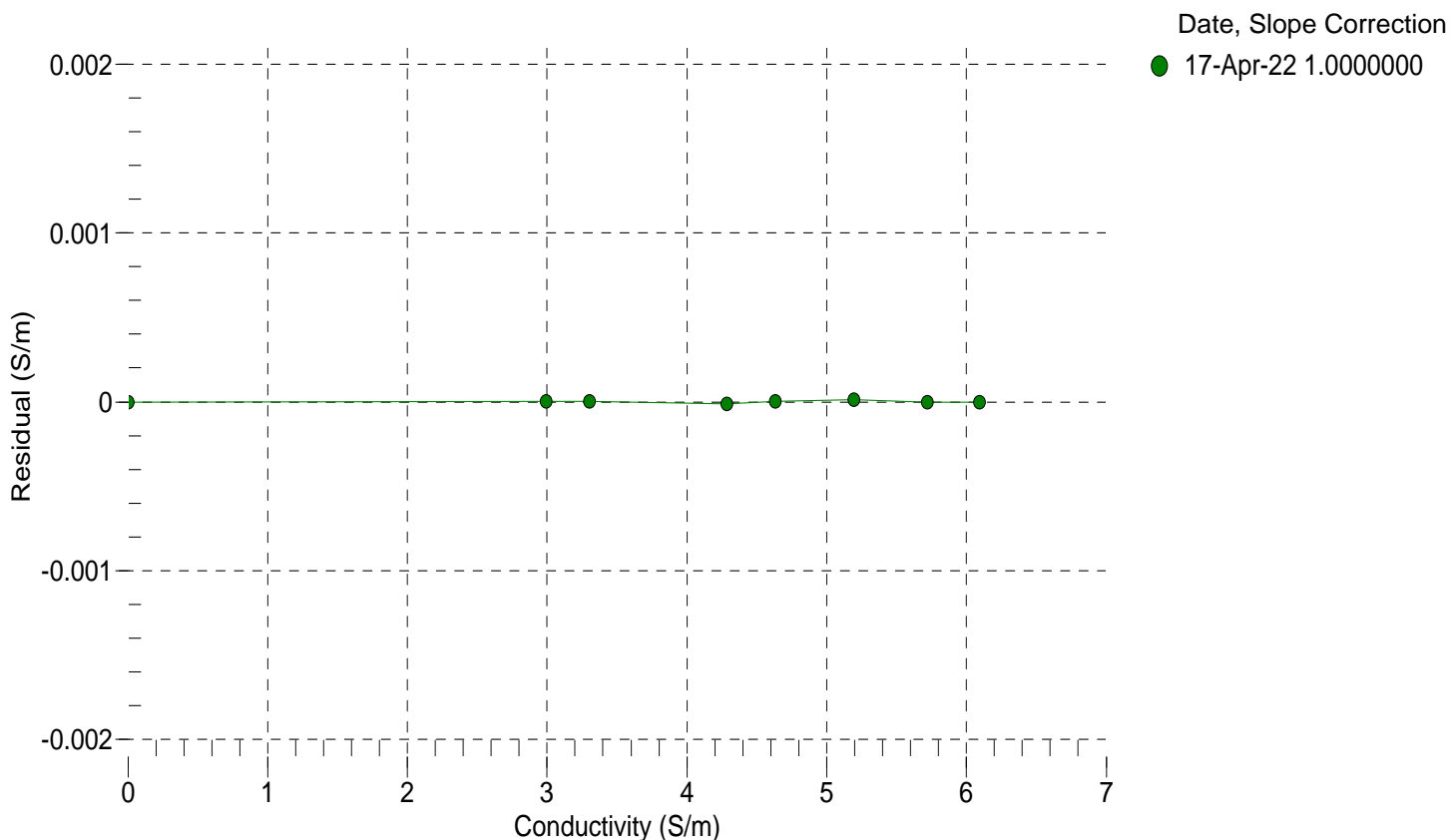
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2549.32	0.00000	0.00000
1.0000	35.0223	2.99189	5046.35	2.99189	0.00000
4.5000	35.0030	3.30060	5236.13	3.30060	0.00000
15.0000	34.9619	4.28758	5800.62	4.28757	-0.00001
18.5000	34.9535	4.63460	5986.19	4.63460	0.00000
23.9940	34.9440	5.19489	6273.90	5.19491	0.00001
29.0000	34.9377	5.71996	6531.68	5.71995	-0.00000
32.5001	34.9322	6.09392	6709.04	6.09392	-0.00000

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

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

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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SBE 41 PRESSURE CALIBRATION DATA
2900 psia S/N 12091715

COEFFICIENTS:

PA0 =	5.554531e-001	PTCA0 =	2.215529e+003
PA1 =	3.903705e-004	PTCA1 =	1.189001e+002
PA2 =	-2.621334e-013	PTCA2 =	-2.479911e+000
PTHA0 =	3.311109e+002	PTCB0 =	3.243514e+005
PTHA1 =	-6.458049e-005	PTCB1 =	-2.691999e+000
PTHA2 =	-1.133325e-012	PTCB2 =	3.980528e-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)
14.27	38723.1	4403601.0	14.24	-0.00	32.50	4299541.60	40576.00
590.56	1517910.6	4404227.2	590.76	0.01	29.00	4346378.40	40778.20
1167.10	2999729.6	4403231.4	1167.15	0.00	23.99	4413755.20	40883.70
1743.82	4485159.9	4402181.2	1743.79	-0.00	18.50	4487161.40	40755.40
2320.52	5973883.9	4400860.8	2320.53	0.00	15.00	4534210.40	40534.80
2897.11	7465332.8	4399868.2	2897.17	0.00	4.50	4673998.00	39833.60
2320.53	5973824.0	4399927.0	2320.50	-0.00	1.00	4720570.20	39544.00
1744.30	4486226.4	4399934.4	1744.18	-0.00	<div>TEMPERATURE (°C) SPAN</div> <div>2.60 324347.10</div> <div>21.32 324474.87</div> <div>33.54 324709.00</div>		
1167.28	2999847.9	4399701.4	1167.18	-0.00			
590.54	1517642.7	4399659.4	590.65	0.00			
14.28	38467.5	4397078.8	14.14	-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)

● 18-Apr-22 -0.00

