SBE16plusV2 SeaCAT Moored

Instrument Configuration

Instrument Serial Number:	16-50670
Instrument Firmware Version:	3.2.1
Zero Conductivity Frequency:	2647.22
Communications Format:	RS232
Communications Settings:	9600 baud, 8 Data Bits, No Parity

Installed Devices/Sensors

Data Format	*Measurement*	*Sensor Type*	*Serial Number*	*Rating*
Count	Temperature	Internal	N/A	N/A
Frequency	Conductivity	Internal	N/A	N/A
Count	Pressure Sensor	Druck	12123927	600m(600 dBar)
NONE	N/A	SBE 5	12677	600m

Maximum Depth: 600m

CAUTION - The maximum deployment depth will be limited by the measurement range of the pressure sensor, if installed, an attached sensor, if installed, or the housing.

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seabird@seabird.com
www.seabird.com

SENSOR SERIAL NUMBER: 50670
CALIBRATION DATE: 03-Aug-25

SBE 16plus V2 TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

COEFFICIENTS:

a0 = 1.235193e-03
a1 = 2.737730e-04
a2 = -5.967893e-07
a3 = 1.604578e-07

BATH TEMP (° C)	INSTRUMENT OUTPUT (counts)	INST TEMP (° C)	RESIDUAL (° C)
1.0000	559880.700	1.0001	0.0001
4.5000	495005.300	4.4999	-0.0001
15.0000	336192.600	15.0001	0.0001
18.5000	294057.500	18.5001	0.0001
24.0000	237172.200	23.9998	-0.0002
29.0000	194094.300	29.0001	0.0001
32.5000	168164.100	32.5000	0.0000

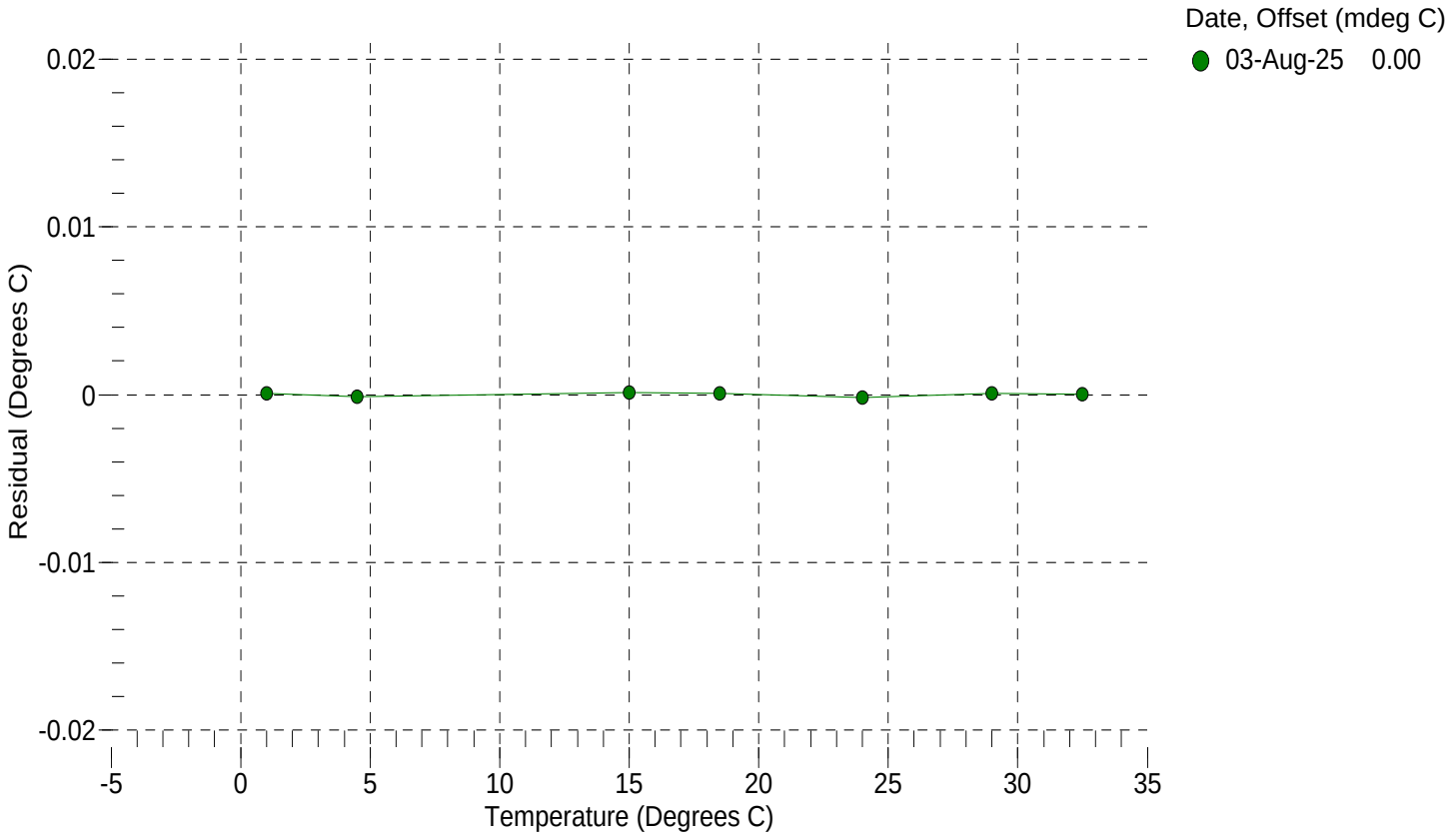
n = Instrument Output (counts)

MV = (n - 524288) / 1.6e+007

R = (MV * 2.900e+009 + 1.024e+008) / (2.048e+004 - MV * 2.0e+005)

Temperature ITS-90 (°C) = $1/\{a0 + a1[ln(R)] + a2[ln^2(R)] + a3[ln^3(R)]\} - 273.15$

Residual (°C) = instrument temperature - bath temperature



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SENSOR SERIAL NUMBER: 50670
CALIBRATION DATE: 03-Aug-25

SBE 16plus V2 CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

```
g =  -9.751962e-01
h =   1.391117e-01
i =  -4.439637e-05
j =   2.353808e-05

CPcor = -9.5700e-008
CTcor =  3.2500e-006
```

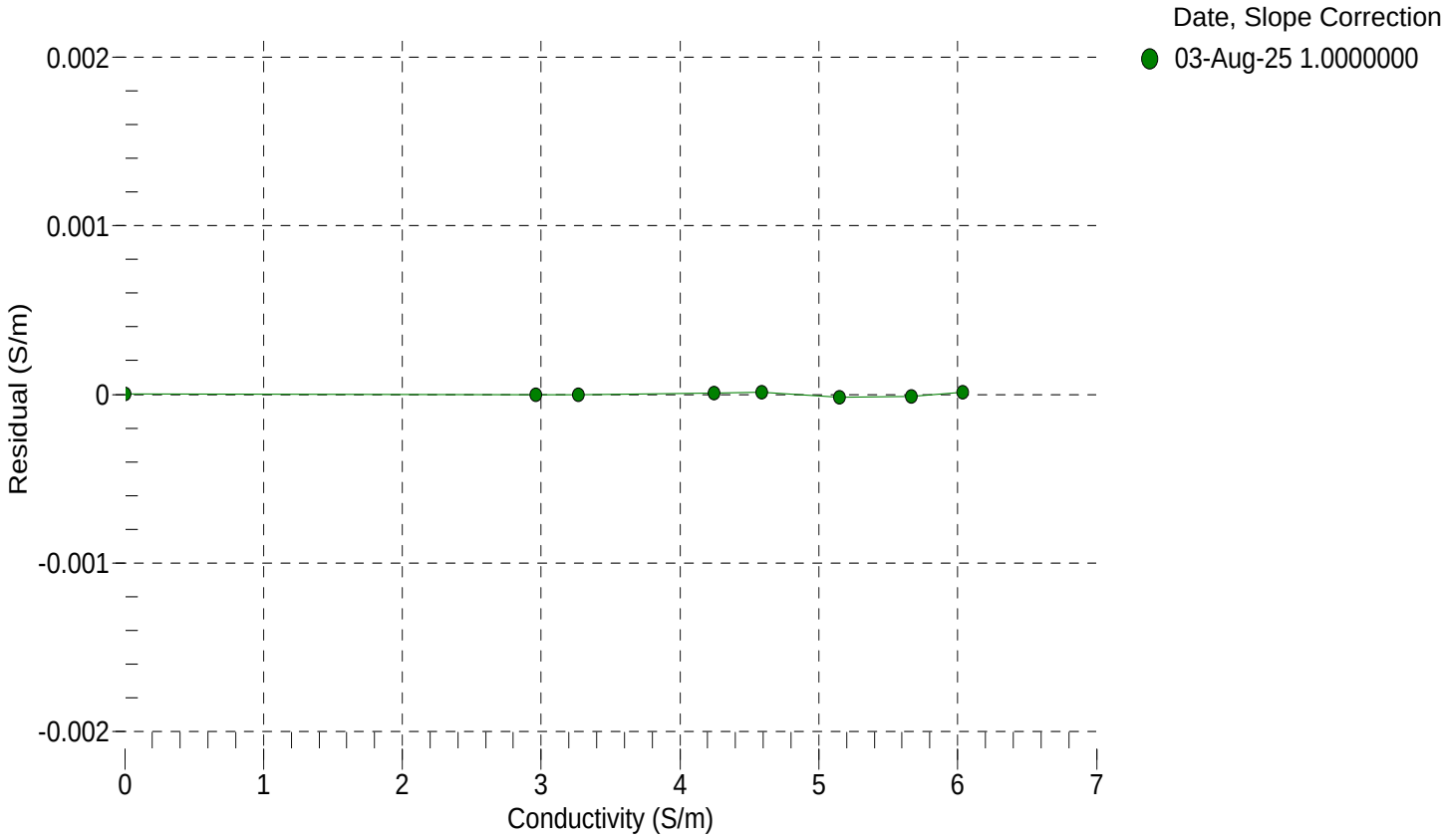
BATH TEMP (° C)	BATH SAL (PSU)	BATH COND (S/m)	INSTRUMENT OUTPUT (Hz)	INSTRUMENT COND (S/m)	RESIDUAL (S/m)
22.0000	0.0000	0.00000	2647.22	0.0000	0.00000
1.0000	34.6462	2.96281	5312.38	2.9628	-0.00000
4.5000	34.6273	3.26864	5513.99	3.2686	-0.00000
15.0000	34.5868	4.24643	6113.40	4.2464	0.00001
18.5000	34.5782	4.59018	6310.35	4.5902	0.00001
24.0000	34.5687	5.14585	6616.04	5.1458	-0.00002
29.0000	34.5628	5.66545	6889.34	5.6654	-0.00001
32.5000	34.5582	6.03605	7077.67	6.0361	0.00001

f = Instrument Output (Hz) / 1000.0

t = temperature (°C); p = pressure (decibars); δ = CTcor; ε = CPcor;

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

Residual (Siemens/meter) = instrument conductivity - bath conductivity



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SENSOR SERIAL NUMBER: 50670
CALIBRATION DATE: 01-Aug-25

SBE 16plus V2 PRESSURE CALIBRATION DATA
870 psia S/N 12123927

COEFFICIENTS:

PA0 =	-2.223582e+00	PTCA0 =	5.245157e+05
PA1 =	2.632558e-03	PTCA1 =	-5.337639e+01
PA2 =	5.315207e-11	PTCA2 =	7.366789e-01
PTEMPA0 =	-6.062110e+01	PTCB0 =	2.505037e+01
PTEMPA1 =	5.370287e+01	PTCB1 =	2.750000e-04
PTEMPA2 =	-3.015332e-01	PTCB2 =	0.000000e+00

PRESSURE SPAN CALIBRATION

PRESSURE (PSIA)	INSTRUMENT OUTPUT (counts)	THERMISTOR OUTPUT (volts)	COMPUTED PRESSURE (PSIA)	RESIDUAL (%FSR)
14.58	529968.6	1.6	14.35	-0.03
183.91	594454.2	1.6	184.34	0.05
355.08	659046.8	1.6	355.04	-0.00
525.84	723419.6	1.6	525.61	-0.03
697.13	787949.6	1.6	697.04	-0.01
868.36	852361.8	1.6	868.60	0.03
697.40	788039.0	1.6	697.28	-0.01
526.12	723554.2	1.6	525.98	-0.02
354.87	658972.8	1.6	354.86	-0.00
183.87	594422.2	1.6	184.26	0.05
14.59	529974.8	1.6	14.38	-0.02

THERMAL CORRECTION

TEMP (°C)	THERMISTOR OUTPUT (volts)	INSTRUMENT OUTPUT (counts)
32.50	1.75	530008.20
29.00	1.69	530039.17
24.00	1.59	530105.23
18.50	1.49	530230.16
15.00	1.42	530329.07
4.50	1.22	530745.30
1.00	1.16	530908.54

TEMPERATURE (°C)	SPAN
-5.00	25.05
35.00	25.06

y = thermistor output (counts)

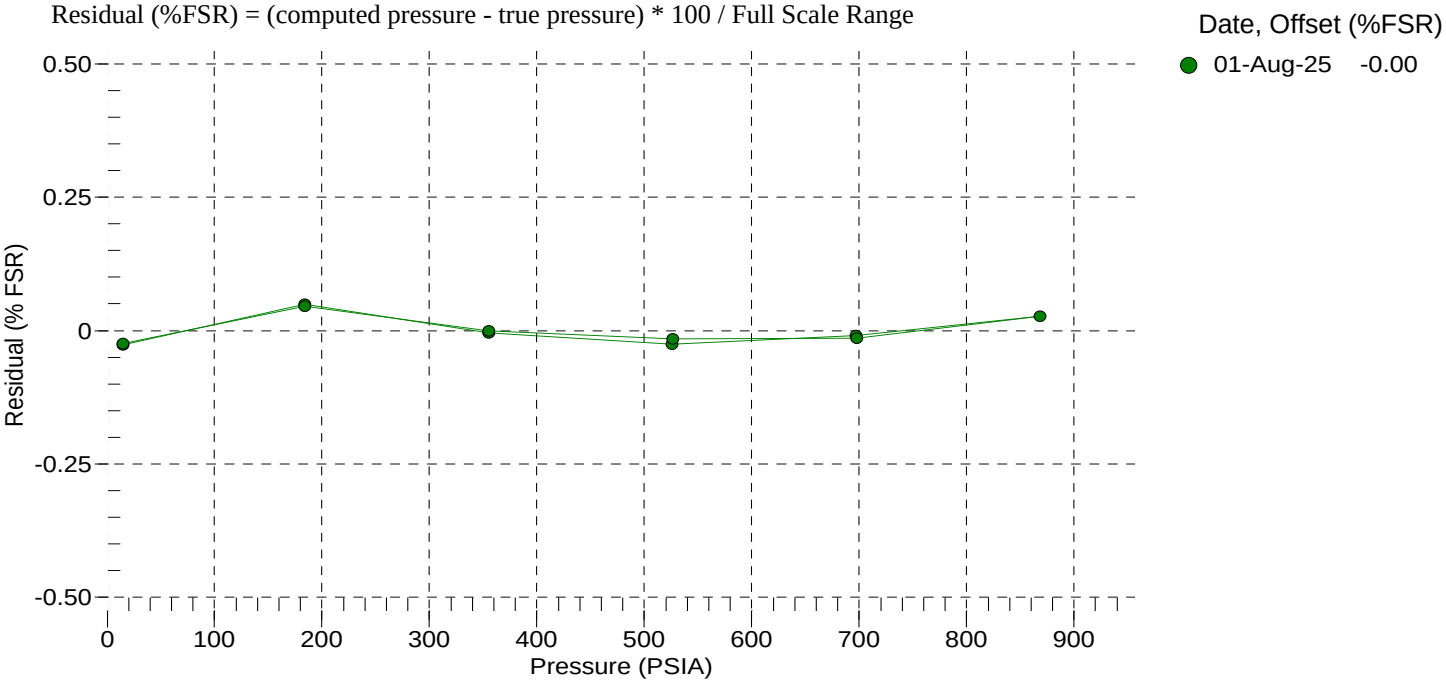
$t = PTEMPA0 + PTEMPA1 * y + PTEMPA2 * y^2$

$x = \text{instrument output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$

$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$

$\text{pressure (PSIA)} = PA0 + PA1 * n + PA2 * n^2$

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



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Pressure Test Certificate

Test Date: 2025-07-22

Description: SBE-5M Submersible Pump

Sensor Information:

Model Number: SBE-5M

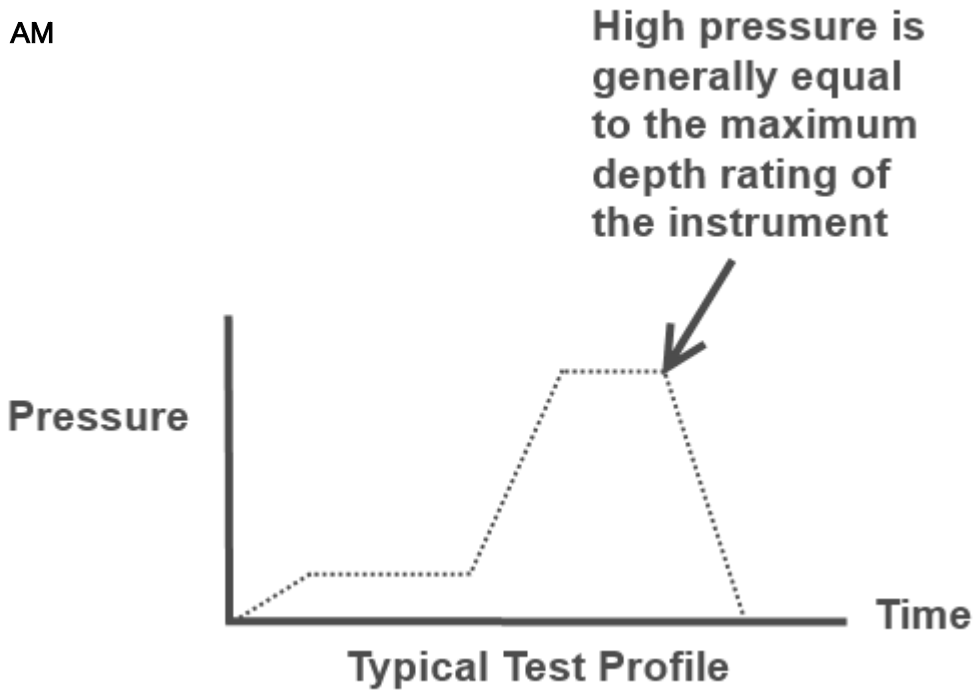
Serial Number: 12677

Pressure Test Protocol:

Low Pressure Test:	40	PSI	Held For:	15	Minutes
High Pressure Test:	870	PSI	Held For:	15	Minutes

Passed Test: True

Tested By: AM



Typical Test Profile