SEA-BIRD SCIENTIFIC

# SBE37-SMP-ODO MicroCAT

## Instrument Configuration

| | |
|---|---|
| Instrument Serial Number: | 37-21148 |
| Instrument Firmware Version: | 6.1.2 |
| Zero Conductivity Frequency: | 2644.05 |
| 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 | Kistler | 5059701 | 2000m(2000 dBar) |
| RS232 | Oxygen | SBE 63 | 63-2330 | 7000m |

**Maximum Depth:** **2000m**

**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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SENSOR SERIAL NUMBER: 2323
CALIBRATION DATE: 21-Aug-19

SBE 63 OXYGEN CALIBRATION DATA

COEFFICIENTS:

| | | | |
|---|---|---|---|
| A0 = 1.0513e+000 | B0 = -2.4659e-001 | C0 = 1.0492e-001 | E = 1.1000e-002 |
| A1 = -1.5000e-003 | B1 = 1.6340e+000 | C1 = 4.4592e-003 | |
| A2 = 4.0303e-001 | | C2 = 6.1770e-005 | |

| BATH OXYGEN (ml/l) | BATH TEMPERATURE (° C) | BATH SALINITY (PSU) | INSTRUMENT OUTPUT (µsec) | INSTRUMENT OXYGEN (ml/l) | RESIDUAL (ml/l) |
|---|---|---|---|---|---|
| 0.696 | 30.00 | 0.00 | 31.18 | 0.694 | -0.002 |
| 0.729 | 26.00 | 0.00 | 31.78 | 0.728 | -0.001 |
| 0.782 | 20.00 | 0.00 | 32.75 | 0.780 | -0.002 |
| 0.867 | 12.00 | 0.00 | 34.09 | 0.866 | -0.000 |
| 0.952 | 6.00 | 0.00 | 35.11 | 0.952 | 0.001 |
| 1.039 | 2.00 | 0.00 | 35.71 | 1.039 | 0.000 |
| 2.148 | 30.00 | 0.00 | 22.84 | 2.148 | -0.000 |
| 2.273 | 26.00 | 0.00 | 23.40 | 2.274 | 0.001 |
| 2.437 | 20.00 | 0.00 | 24.48 | 2.437 | 0.001 |
| 2.936 | 12.00 | 0.00 | 25.39 | 2.937 | 0.001 |
| 3.313 | 6.00 | 0.00 | 26.40 | 3.315 | 0.002 |
| 3.576 | 30.00 | 0.00 | 18.89 | 3.574 | -0.002 |
| 3.646 | 2.00 | 0.00 | 27.07 | 3.645 | -0.002 |
| 3.814 | 26.00 | 0.00 | 19.34 | 3.813 | -0.001 |
| 4.256 | 20.00 | 0.00 | 20.02 | 4.255 | -0.001 |
| 4.993 | 12.00 | 0.00 | 21.06 | 4.992 | -0.001 |
| 5.025 | 30.00 | 0.00 | 16.44 | 5.026 | 0.001 |
| 5.448 | 26.00 | 0.00 | 16.73 | 5.450 | 0.002 |
| 5.685 | 6.00 | 0.00 | 21.96 | 5.686 | 0.001 |
| 6.132 | 20.00 | 0.00 | 17.29 | 6.130 | -0.002 |
| 6.275 | 2.00 | 0.00 | 22.56 | 6.279 | 0.005 |
| 7.160 | 12.00 | 0.00 | 18.25 | 7.162 | 0.002 |
| 8.176 | 6.00 | 0.00 | 19.06 | 8.173 | -0.003 |
| 8.664 | 2.00 | 0.00 | 19.94 | 8.662 | -0.002 |

T = temperature (°C) , P = pressure (dbar), U = Instrument output (µsec)

$S_{corr}$ (salinity correction function) = 1.0 for calibration in DI water

See the user manual for more information on $S_{corr}$ calculation

$V = U / 39.457071$

Oxygen (ml/l) = $\{((A0 + A1*T + A2 * V^2)/(B0 + B1 * V) - 1.0)/(C0 + C1 * T + C2 * T^2)\} * S_{corr} * \exp(E * P / (T + 273.15))$

Residual (ml/l) = instrument oxygen - bath oxygen