

# 37-SMP-ODO

MICROCAT CT(D)-DO

## Overview

The SBE 37-SMP-ODO pumped MicroCAT is a high-accuracy conductivity and temperature (pressure optional) recorder with Serial interface (RS-232 or RS-485), internal batteries, Memory, integral Pump, and Optical Dissolved Oxygen. The MicroCAT is designed for moorings or other long-duration, fixed-site deployments.

Data is recorded in memory and can be output in real-time. Measured data and derived variables (salinity, sound velocity, specific conductivity) are output in engineering units.

Memory capacity exceeds 380,000 samples. Battery endurance varies, depending on sampling scheme and deployment temperature and pressure. Sampling every 15 minutes (10 °C, 500 dbar), the MicroCAT can be deployed for almost 9 months (25,000 samples).

## Features

Moored Conductivity, Temperature, Pressure (optional), and Optical Dissolved Oxygen, at user-programmable 10-sec to 6-hour intervals

Integral pump

RS-232 or RS-485 interface

Internal memory and battery pack (can be powered externally)

Expendable anti-foulant devices, unique flow path, and pumping regimen for bio-fouling protection

Adaptive Pump Control for high-accuracy oxygen data

350 m plastic or 7000 m titanium housing

Seasoft® V2 Windows software package (setup, data upload, and data processing)

Field-proven MicroCAT family, with more than 10,000 instruments deployed

Five-year limited warranty



## Components

Unique internal-field conductivity cell permits use of expendable anti-foulant devices, for long-term bio-fouling protection

Aged and pressure-protected thermistor has a long history of exceptional accuracy and stability

Optional strain-gauge pressure sensor with temperature compensation is available in eight ranges (maximum depth 7000 m)

Oxygen sensor is field-proven, individually calibrated SBE 63 Optical Dissolved Oxygen sensor

Pump runs for each sample, providing improved conductivity and oxygen response, bio-fouling protection, and correlation of CTD and oxygen measurements

## Options

- Plastic (350 m) or titanium (7000 m) housing
- RS-232 or RS-485 interface
- No pressure, or strain-gauge pressure sensor in one of 8 ranges
- XSG or wet-pluggable MCBH connector
- Wire mounting clamp and guide or brackets for mounting to a flat surface

## Initial Accuracy

Conductivity	± 0.0003 S/m (0.003 mS/cm)
Temperature	± 0.002 °C (-5 to 35 °C); ± 0.01 °C (35 °C to 45 °C)
Dissolved Oxygen	larger of ± 3 µmol/kg (0.07 ml/L, 0.1 mg/L) or ± 2%
Optional Pressure	± 0.1% of full scale range

## Resolution

Conductivity	0.00001 S/m (0.0001 mS/cm)
Temperature	0.0001 °C
Dissolved Oxygen	0.2 µmol/kg
Optional Pressure	0.002% of full scale range

## Typical Stability

Conductivity	0.0003 S/m (0.003 mS/cm) per month
Temperature	0.0002 °C per month
Dissolved Oxygen	sample-based drift < 1 µmol/kg/100,000 samples (20 °C)
Optional Pressure	0.05% of full scale range per year

## Measurement Range

Conductivity	0 to 7 S/m (0 to 70 mS/cm)
Temperature	-5 to 45 °C
Dissolved Oxygen	120% of surface saturation in all natural waters (fresh and salt)
Optional Pressure	20 / 100 / 350 / 600 / 1000 / 2000 / 3500 / 7000 (meters of deployment depth capability)

**Acquisition Time** 2.4 - 3.2 sec/sample (see manual)

**Memory Capacity** 380,000 samples CTD-DO

**Housing, Depth Rating, & Weight** Plastic: 350 m, 3.4 kg in air, 1.5 kg in water

Titanium: 7000 m, 4.2 kg in air, 2.3 kg in water

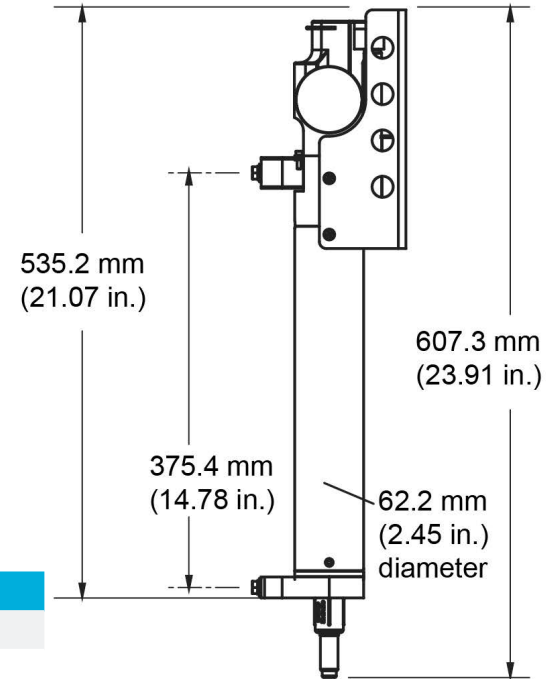
**Optional External Power** 0.25 Amps at 9-24 VDC

**Power Supply & Consumption** 7.8 Amp-hour (nominal) battery pack  
(derated for calculations)

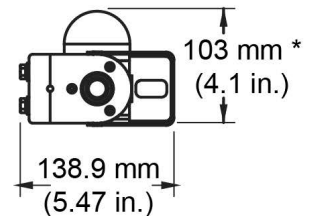
25,000 samples CTD-DO (see manual)

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\* 103 mm is for plastic housing; titanium housing dome is 9 mm smaller



**With Wire Mounting Clamp and Guide**



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