



Datasheet: CO2 Data Loggers

This portable battery-powered meter is designed to measure carbon dioxide (CO₂) in real-time in inaccessible areas for applications such as, but not limited to fermentation vats & barrels, biological incubators, and CO₂ leak detection. Its internal memory allows the user to record CO₂ concentration level data over periods of time.

Features:

- Portable meter with lightweight handheld easy-grip design
- Various measuring ranges to choose from
- Back-lit LCD display with programmable CO₂ level-responsive 3-color alarm
- Built-in 1,000-hour micro pump
- Fully compatible with Windows 7, 8, XP or later¹
- Includes impact-resistant case, power supply, tubing/filter kit, and USB cable
- Records up to 15,000 data points in internal memory

CO₂ Sensor Ratings

| | 1% CO ₂ Models | 5% CO ₂ Models | 30% CO ₂ Models | 60% CO ₂ Models | 100% CO ₂ Models |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------|----------------------------|-----------------------------|
| Measurement Range..... | 0-10,000 ppm | 0-50,000 ppm | 0-30% of volume | 0-60% of volume | 0-100% of volume |
| Repeatability..... | ± 20 ppm, ± 1 % of measured value | | ± 0.1% vol., ± 2 % of measured value | | |
| Accuracy..... | ± 30 ppm, ± 5 % of measured value / ±70 ppm +/- 5% of reading ¹ / ± 0.5 %vol. CO ₂ ± 3 % of measured value | | | | |
| Detection Method..... | Sampling (drawn through tubing) | | | | |
| Response Time(T1/e)..... | < 20 seconds diffusion or tube IN/OUT (0.2 l/min gas flow) | | | | |
| Life Expectancy..... | > 15 years | | | | |
| Pressure Dependence..... | ± 1.6% reading deviation per k Pa (from atmospheric pressure, 100 k Pa) / 0.13% of reading per mm Hg | | | | |

General Performance

| | |
|----------------------------------|------------------------------|
| Operating Temperature Range..... | 0 to +50 °C |
| Operating Humidity Range..... | 0 to 95% RH (non-condensing) |
| Maintenance Interval..... | No maintenance required |

Pump Characteristics

| | |
|----------------------|----------------------------------------------|
| Max. Flow Rate..... | 0.40 LPM (STP) |
| Max. Pressure..... | 50 kPa |
| Max. Vacuum..... | 15 kPa |
| Life Expectancy..... | 1,000 hours (depending on sampling interval) |

Power

| | |
|--------------------|--------------------------------------------|
| Input Voltage..... | 6 VDC |
| Source..... | International wall power supply (included) |
| Battery Type..... | Four (4) AA Alkaline (not included) |
| Consumption..... | ~0.5 Watt Avg. (pump running) |

Communication

| | |
|-----------------------------|----------------------------------------------------------------------------------------|
| Cable Type..... | USB cable, Type A to Mini-B, 6-foot long |
| Software ¹ | Compatible with our complimentary GasLab® software, as well as our legacy DAS software |

Physical

| | |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Material..... | Black polycarbonate enclosure with yellow rubber side grips |
| Display..... | Back-lit liquid crystal display (LCD), dual character row (shows CO ₂ level, data logging, and % free memory) |
| Ports..... | Protected Mini-USB connector, inlet/outlet Lure-type fittings, Power & Log Latching switches, Power jack |
| Operating Environment..... | Non-corrosive. Indoors: laboratory, residential, commercial or industrial. Outdoors optional. |
| Dimensions (WxHxD)..... | 4.82 x 7.10 x 2.05 inches (122 x 181 x 52 mm) |

Models Available

- **ESCM-01:** 1% CO₂ Data Logger
- **ESCM-56:** 5% CO₂ Data Logger
- **ESCM-02:** 30% CO₂ Data Logger
- **ESCM-50:** 60% CO₂ Data Logger
- **ESCM-03:** 100% CO₂ Data Logger