

# Datasheet: CO<sub>2</sub>, Temperature and %RH Data Logger



The 1% and 30% Data Loggers can remotely log carbon dioxide, temperature and relative humidity levels - from seconds to days apart - using its built-in clock. They are battery powered, completely self-contained and smaller than a paperback book. The display units also include an 80 db user-programmable CO<sub>2</sub> level alarm with large mute button, and can serve as an OSHA CO<sub>2</sub> level safety device.

## FEATURES:

- Measuring ranges 1% CO<sub>2</sub> (ESCM-16, -18, -210) or 30% CO<sub>2</sub> (ESCM-17, -19, -209)
- Display and alarm on 1% CO<sub>2</sub> (ESCM-16) and 30% CO<sub>2</sub> (ESCM-17) units
- Built-in rechargeable Lithium Ion Battery Pack (ESCM-18, ESCM-19, ESCM-209, ESCM-210)
- Free software for graphing or downloading data to universal .CSV format.
- Internal memory stores up to 15,000 data points with time stamp on ESCM-16 and ESCM-17 - Internal memory stores up to 5,400 data points with time stamp on ESCM-18 and ESCM-19

## CO<sub>2</sub> Measurement

Measurement Range.....	0 -10,000ppm (1%) or 300,000ppm (30%) CO <sub>2</sub>
Sensing Method.....	Non-dispersive infrared (NDIR) Sensor with automatic background calibration algorithm
Sampling Method.....	Diffusion
Response Time.....	< 25 seconds gas diffusion time
1% CO <sub>2</sub> Sensor Repeatability.....	± 20 ppm ± 1 % of measured value
1% CO <sub>2</sub> Sensor Accuracy.....	± 30 ppm ± 3 % of measured value
30% CO <sub>2</sub> Sensor Repeatability.....	± 0.1% vol. CO <sub>2</sub> ± 2 % of measured value
30% CO <sub>2</sub> Sensor Accuracy.....	± 0.2% vol. CO <sub>2</sub> ± 3 % of measured value
Pressure Dependence.....	± 1.6% reading per kPa deviation from normal pressure, 100 kPa

## Temperature & Humidity Measurement

Temperature Measurement Range.....	-40 to 60C
Temperature Accuracy.....	± 0.4C at 25C
Relative Humidity Measurement Range.....	0 – 100% RH non-condensing
Relative Humidity Accuracy.....	± 3% RH

## General Performance

Operating Temperature Range.....	0 to +50 °C
Operating Humidity Range.....	0 to 95% RH (non-condensing)
Sensor Life Expectancy.....	> 15 years
Maintenance Interval.....	no maintenance required
Self-Diagnostics .....	Complete function check of the sensor module
Operating Environment.....	Non-corrosive environment: Laboratory, residential, commercial or industrial. Outdoors optional.

## Electrical/Mechanical

Power Input.....	Lithium-Ion Battery Pack 2,200mA or 6,000mA 4 AA Batteries (ESCM-16, ESCM-17, ESCM-18-CC)
Dimensions.....	146x91x33mm

## Communication

USB A to USB Mini-B (5-pin cable).....	Single Cable Connection for DAS or Gaslab Software and recharging (included)
Software.....	Requires Windows XP SP2 or later and Microsoft .Net 3.5 Run-time libraries

## Models

- **ESCM-16:** 1% CO<sub>2</sub> with display, alarm, AA bat.
- **ESCM-17:** 30% CO<sub>2</sub> with display, alarm, AA bat.
- **ESCM-18CC:** 1% CO<sub>2</sub> with AA batteries
- **ESCM-18:** 1% CO<sub>2</sub> with 2,200 mA Li-Ion batteries
- **ESCM-19:** 30% CO<sub>2</sub> with 2,200 mA Li-Ion batteries
- **ESCM-209:** 30% CO<sub>2</sub> with 6,000 mA Li-Ion batteries
- **ESCM-210:** 1% CO<sub>2</sub> with 6,000 mA Li-Ion batteries