DataSheet

Tinytag CO$_2$ Logger

- 0 to 2,000 or 5,000ppm
- Self-calibrating
- High accuracy
- Cost-effective

With an increasing number of air conditioned and environmentally controlled buildings, the need for checking CO$_2$ levels is becoming an increasingly important part of building monitoring. The Tinytag CO$_2$ data logger is a cost-effective way of monitoring air quality.

Poor air quality in schools and workplaces is often linked to low concentration levels, poor performance and sometimes sickness.

Measuring carbon dioxide levels indoors gives an indication of air quality and the effectiveness of any ventilation systems.

The Tinytag CO$_2$ data logger allows the monitoring of carbon dioxide levels in a room and builds up a clear profile of gas concentrations over time.

Used widely in building monitoring and HVAC applications, the unit is a cost-effective way of checking if an area is correctly ventilated.

gemini
DATA LOGGERS

Tinytag CO$_2$Logger

Features

- **0 to 2,000 and 5,000ppm versions** - two models of the Tinytag CO$_2$ data logger are available. The TGE-0010 has a range of 0 to 2,000ppm and is commonly used for school and workplace monitoring where carbon dioxide levels are judged to be too high if they exceed 1,500ppm. The TGE-0011 has a range of 0 to 5,000ppm and is used in more specialised applications.

- **Self-calibrating** - the logger uses a self-calibrating dual wavelength NDIR sensor. This sensor uses an infrared source to accurately measure the carbon dioxide concentrations in an application. Over time, the properties of the sensor may change, so it has a second detector, that uses a different wavelength, to calibrate the first. This measurement technique compensates for ageing effects, is highly insensitive to pollution and offers outstanding long term stability.

- **Discreet case** - housed in a discreet, neutral coloured, low profile case, the logger can be wall mounted for unobtrusive use in office and workplace applications.

- **Compare data** - using the Tinytag Explorer software, data from the CO$_2$ data logger can easily be combined with data from other loggers in the Tinytag range that record temperature, humidity and various other parameters.

- **No-power warning** - the CO$_2$ data logger uses a mains power adaptor (supplied) to power its sensor. In the event of a power failure, a red LED on the front of the unit will flash to warn the user that there is a problem.

Specification

Features

Total Reading Capacity	32,000 readings
Memory type	Non Volatile
Delayed Start	Relative / Absolute (up to 45 days)
Stop Options	When full
	After n Readings
	Never (overwrite oldest data)
Reading Types	Actual, Min, Max
Logging Interval	1 min to 10 days
Alarms	1 fully programmable; latchable (a second alarm can be programmed at the expense of the "no-power" warning)

Reading Specification

Sensor Type	Dual wavelength NDIR Infra-red CO$_2$ sensor
Response Time t$_{63}$	110s (typical)
Temperature Dependence	± (1 + CO2 concentration [ppm] / 1000) ppm/°C (-20 to 45°C/-4 to 113° F) - typical
Reading Resolution	0.1ppm
TGE-0010 Accuracy	< ± (50ppm +2% of measured value)
TGE-0011 Accuracy	< ± (50ppm +3% of measured value)

The accuracy figures quoted above are at 25°C (77°F) and 1013mbar.

A warm-up time of 5 minutes is required to achieve values specified above.

Physical Specification

Working Temperature Range	-20°C to +60°C (-4°F to +140°F)
Case Dimensions	
Width	85mm / 3.35"
Height	100mm / 3.94"
Depth	26mm / 1.03"
Weight	100g / 3.53oz
Case Colour	
Cover	RAL 9003 (signal white)
Back	RAL 7035 (light grey)

Power Specification

The unit is supplied with a mains adapter that comes with UK, EU and US AC connectors.

Back-up Battery Type   CR2325

Before replacing the battery the data logger must be stopped.

Data stored on the logger will be retained after a battery is replaced.

The unit also has a +18V DC screw terminal connection on its circuit board that can be used to power the unit from a separate supply if required.

The CO$_2$ loggers have an average current consumption of 13mA. The sensor itself pulls 500mA for 300ms every 15s.

Approvals

Gemini Data Loggers (UK) Ltd. operates a Business Management System which conforms to ISO 9001 and ISO 14001.

$C \in$

Part Numbers

TGE-0010: Tinytag CO$_2$ data logger (0 to 2,000ppm)
TGE-0011: Tinytag CO$_2$ data logger (0 to 5,000ppm)

To use these data loggers you will also require a copy of the Tinytag Explorer software and a USB download cable.

The following starter kits contain a CO$_2$ data logger, a copy of Tinytag Explorer and a USB download cable.

TGE-0010-SPK: Tinytag CO$_2$ Starter Kit (0 to 2,000ppm)
TGE-0011-SPK: Tinytag CO$_2$ Starter Kit (0 to 5,000ppm)

Gemini
DATA LOGGERS