

## Key Features

- Dual power 100-120VAC or 12-24VAC or DC inputs
- Automatically drive ventilation fans reducing CO<sub>2</sub> and/or temperature
- 0-10V Signal output progress bar display
- Monitor, record and display average CO<sub>2</sub> concentration over 8 hour periods.
- End of Life and Fault notifications for CO<sub>2</sub> sensing
- Automatically switch between ventilation programs when gas is being used
- Pre-alarm and alarm relay output
- Temperature can be displayed in degrees Celsius or Fahrenheit
- Boost, mute and wake up button
- CO<sub>2</sub> measured and displayed in parts per million (PPM)

## Overview

The Merlin CO<sub>2</sub> TFT Monitor is a wall mounted CO<sub>2</sub> and temperature monitor that provides precise, easy to read measurements in a single device. Using relays and 0-10vdc outputs the unit can interface with all modern BAS systems. The continuous CO<sub>2</sub> self-recalibration feature eliminates the need for routine maintenance. Available in 110/120vac or 12-24VAC / DC with industrial grade electronics we can ensure exceptional accuracy and long term reliability. The Merlin CO<sub>2</sub> TFT monitor gives a clear TFT display reading to show the occupant a precise ppm CO<sub>2</sub> level and the ambient room temperature. A unique “traffic light” color code system gives a clear representation of the air quality in the room with three color indications.

The Merlin CO<sub>2</sub> TFT monitor can be used independently or in conjunction with one of the Merlin range of Gas Safety Systems. An audible alarm can be employed where required. A simple dip switch on the circuit board is used to turn the audible alarm on or off.

Relays can activate ancillary devices at set alarm points and a 0-10vdc output in direct relation to the CO<sub>2</sub> concentration can signal the BMS or automatically drive ventilation fans reducing CO<sub>2</sub> and/or temperature. If both the CO<sub>2</sub> and temperature levels are at a safe level (green), the CO<sub>2</sub> TFT screen will enter a screen saver mode and will switch off. No readings or messages will be visible during this time.

## Application

- Precise CO<sub>2</sub> sensing for integration in modern BAS systems.
- Control ventilation.
- Monitor and Control CO<sub>2</sub> concentrations.
- Commercial Kitchens, School Classrooms, Dormitories / Multi occupancy dwellings.
- Commercial Garages, Mechanical rooms, Manufacturing plants, Gyms.

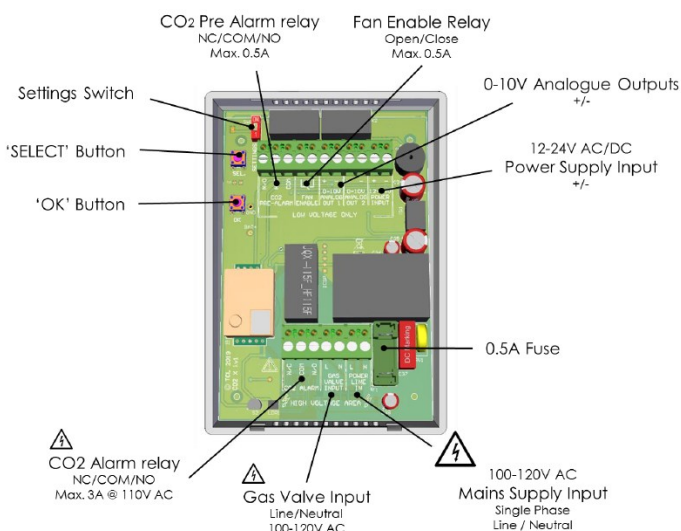
## Gas Safety Systems

## Utility Control

## Technical Specifications

Visual Indicators	CO2 Gas level / Temperature level / Measurement value / Boost / End of life / Sensor fault / Gas in use / Mute / Average co2 level
Display	1.8" TFT—Thin Film Transistor
Screen Brightness	Low. Medium. High
Initial Stabilisation Time	One (1) Minute
Power Supply	100-120V AC 50-60Hz (Max 2.16VA without load) or 12-24V AC/DC (25V AC/DC Max)
Gas Valve Input	100-120V AC
CO <sup>2</sup> Pre Alarm Relay Output	Max 0.5A Signal
CO <sup>2</sup> Alarm Relay	Max 3A @ 240V
Fan Enable Relay Output	Max 0.5A Signal
Consumption	2.16 W Max
Internal Fuse	0.5A / 120 V AC
Operating Temperature	0-40°C (104°F) 0-95%RH Non-Condensing
Alarm (Buzzer) Sound (dB)	65 dB (300mm distance in quiet conditions)
<b>CO2 Sensor</b>	
Sensor Type	NDIR, Intelligent Infrared CO2 Module. ABC Logic Auto Calibration
Measuring Range	400-5000ppm
Accuracy @ 25°C / 77°F	± 100ppm
Gas Sensor Signal Update	Every Three Seconds
CO2 Average Signal Update	Every Ten Minutes
Expected Life	10 Years
<b>Temperature Sensor</b>	
Sensor Type	Linear Active Thermistor Integrated Circuit
Measuring Range	0-95°C / 0-203°F
Accuracy @ 25°C / 77°F	± 2°C Max
Resolution	0.1°C/0.1°F
Dimensions (H x W x D)	140 x 95 x 30mm / 5.5 x 3.74 x 1.18"
Net Weight	256g / 9.03oz

## Board Overview



## Area of coverage

Consider the coverage required and function of the area. Emphasis should be placed on airflow patterns and correct placement, not perceived detecting ranges. The target gas will only be identified when contact is made with the sensing element itself.

Your monitor should be installed in populated areas that risk high concentrations of CO<sub>2</sub> gas or varied temperatures e.g. educational and government building including laboratories and commercial kitchens.

## Typical Positioning

Laboratories/Educational buildings	Seated head height
Commercial kitchens	1700mm (5.6ft) from ground level

These recommended heights may vary based on air flow and temperature conditions in addition to the proposed application and location

**Gas Safety Systems**

**Utility Control**