

Gas Safety Products

Merlin CO2 Monitor

2800PPM



Installation, operating and maintenance

05/10/2016



Table of contents

1	General information	3
2	Installation	3
2.1	Mounting the CO2 Sensor.	3
2.2	Mains Supply.....	3
2.3	Alarm Relay.....	3
2.4	Pre Alarm Relay.....	3
2.5	Temperature Relay.	3
2.6	0-10 Volt DC Output.....	3
2.7	Audible Alarm.....	3
3	Operation Instructions	3
3.1	How to turn the system on and off	3
3.2	Explanation of LED status.....	4
3.2.1	Low (Green) LED	4
3.2.2	Medium (Amber) LED	4
3.2.3	High (Red) LED.....	4
	Merlin CO2 Wiring Diagram.....	4

1 General information

The Merlin CO2 Monitor has a LED display to show the user a clear and precise reading of the CO2 level in the room also the traffic light colour system indicates the air quality in the area.

The Merlin CO2 Monitor can be used independently or can work in conjunction with one of our Merlin gas control systems. If the CO2 reaches alarm level the Merlin CO2 Monitor would sound an audible alarm to alert the user and also send a signal to the Merlin gas control system which will in turn close the gas solenoid valve.

2 Installation

- 2.1 **Mounting the CO2 Sensor.** The control panel is designed for surface mounting using 2 mounting screws. Removing the back plate gives access to the circuit board. Do not attempt to remove the PCB.
- 2.2 **Mains Supply.** A 100-240volt electrical supply should be supplied to the panel. This should be externally fused at 3 Amps using a fused spur and should be connected to the terminals marked "LN Power"
- 2.3 **Alarm Relay.** This will switch over should the level of Co2 rise above 2800ppm, and automatically switch back once the levels have dropped below 2750ppm.
- 2.4 **Pre Alarm Relay.** This will switch over should the level of Co2 rise above 1500ppm, and automatically switch back once the levels have dropped below 1450ppm.
- 2.5 **Temperature Relay.** This will switch over should the sensor detect the temperature rise above 30 degrees celsius, and switch back once the temp drops back below 29 degrees celsius etc.
- 2.6 **0-10 Volt DC Output.** The voltage will increase / decrease depending on the ppm read out of Co2 detected. 2V per 1000ppm.
- 2.7 **Audible Alarm.** There is a dip switch on the circuit board to activate or de-activate the in-built audible alarm. (On = on & 1 = Off). This will sound at 1500ppm if enabled.

Note: all low voltage connections should be made using a screened cable to avoid electrical interference.

3 Operation Instructions

3.1 How to turn the system on and off

1. To turn on the Merlin CO2 monitor you need to supply 100-240V into the "L & N POWER" terminal, this will then illuminate the blue LCD screen and initiate a 60 second countdown. When the countdown is complete the LCD screen will show the CO2 levels in the room.
2. To turn off the Merlin CO2 monitor you need to turn the power supply to the panel off or disconnect the fuse spur.

3.2 Explanation of LED status

3.2.1 Low (Green) LED

Green - Good air quality, CO₂ <1000ppm

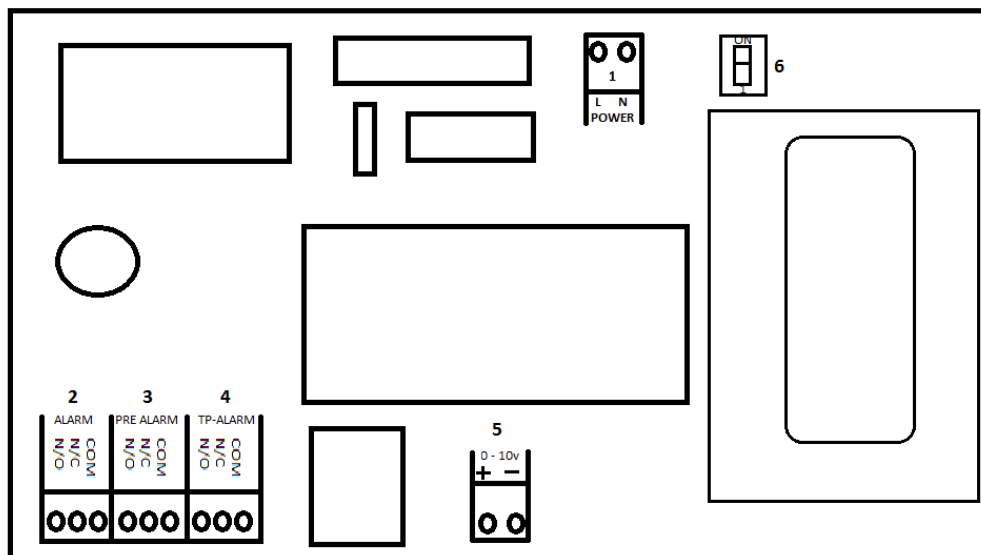
3.2.2 Medium (Amber) LED

Yellow - Moderate air quality, 1000ppm > CO₂ < 1500ppm

3.2.3 High (Red) LED

Red - Poor air quality CO₂ >1500ppm

Merlin CO2 Wiring Diagram



1. Mains Input 100-240V, L & N
2. Alarm relay, volt free connection to Merlin system.
3. Pre alarm relay, volt free connection to Merlin system.
4. Temperature relay.
5. 0-10V output, low voltage connection.
6. Audible alarm switch, ON = ON / 1 = OFF

Please note, Mains wires and low voltage wires should not be run in the same conduit as per the **LOW VOLTAGE DIRECTIVE**

CONTACT US:

AGS Head Office

Tel: (727) 608-4375

Fax: (727) 538-4237

info@americangassafety.com



Rev	Date	Author	Description
01	05.10.16	American Gas Safety BT	Merlin CO2 2800 Product Data Sheet – First issue

American Gas Safety is the owner of this document and reserves all rights of modification without prior notice.