



**S&S™**  
NORTHERN

**Gas Safety Products**

Merlin CO2 Detector C1

1500 / 2800 / 4500 ppm



## User Guide



Please read this guide carefully and retain for future use.

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## 1 General Information

The Merlin CO2 detector has a traffic light colour system indicating the carbon dioxide levels in the area.

The Merlin CO2 detector 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 detector would illuminate 'High' and also send a signal to the Merlin gas control system which will in turn close the gas solenoid valve.



### Important Warning Statements

**It is recommended that this unit be commissioned upon installation and serviced annually.**

**The expected life time of the detector/sensor element is: 10 Years**

**Never ignore your device when in alarm.**

**This device requires a continual supply of electrical power – it will not work without power.**

**The unit should be stored in cool, dry conditions.**

**Avoid Installation near any ventilation openings, i.e. vents, chimneys, windows etc.**

**Avoid installation near ceiling fans, windows or areas exposed to direct weather.**

**This unit may not fully safeguard individuals with specific medical conditions.  
If in doubt, consult a doctor/physician.**

**Your product should reach you in perfect condition, if you suspect it is damaged, contact your supplier immediately.**



**Information on waste disposal for consumers of electrical & electronic equipment. (EEE)**

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used.

Please contact your supplier or local authority for details of recycling schemes in your area.

## 2 Installation

### 2.1 Mounting the CO2 detector

The detector 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 230-volt 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 the specified concentration – (see table) and automatically switch back once the levels have dropped.

## 3 LED Indication Status

Model: **CO2 Detector 1500ppm**

- Low (Green) LED  
Good air quality, CO<sub>2</sub> <900ppm
- Medium (Amber) LED  
Moderate air quality, 900ppm > CO<sub>2</sub> <1200ppm
- High (Red) LED  
Poor air quality CO<sub>2</sub> >1200ppm

Model: **CO2 Detector 2800ppm**

- Low (Green) LED  
Good air quality, CO<sub>2</sub> <1000ppm
- Medium (Amber) LED  
Moderate air quality, 1000ppm > CO<sub>2</sub> <1500ppm
- High (Red) LED  
Poor air quality CO<sub>2</sub> >1500ppm

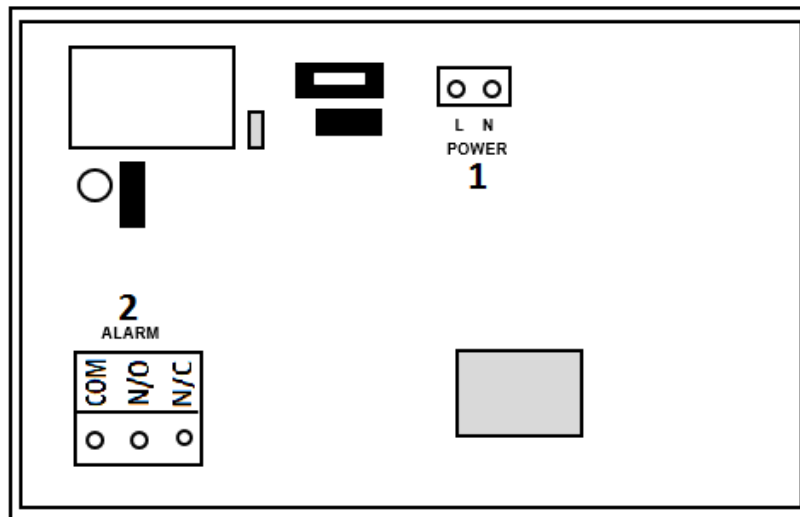
Model: **CO2 Detector 4500ppm**

- Low (Green) LED  
Good air quality, CO<sub>2</sub> <1000ppm
- Medium (Amber) LED  
Moderate air quality, 1000ppm > CO<sub>2</sub> <2800ppm
- High (Red) LED  
Poor air quality CO<sub>2</sub> >2800ppm

## 4 Specifications

Power Supply	230VAC, 50-60Hz (Max 2VA)
Gas Sensor	Carbon Dioxide: Non-Dispersive Infrared Detector (NDIR) ABC Logic Self Calibration
CO2 Measuring Range	0-5000ppm (Resolution: 1ppm)
Accuracy @ 25°C (77°F)	±100ppm +6% Reading
Warm Up time	1 Minute
Switch Over Relay Output	<p><u>Model: 1500ppm</u> 230VAC 1A, 30VDC 2A Switching Current (resistive load) CO2 Alarm &gt;1500ppm - Relay ON / &lt;1450ppm - Relay OFF</p> <p><u>Model: 2800ppm</u> 230VAC 1A, 30VDC 2A Switching Current (resistive load) CO2 Alarm &gt;2800ppm - Relay ON / &lt;2750ppm - Relay OFF</p> <p><u>Model 4500ppm</u> 230VAC 1A, 30VDC 2A Switching Current (resistive load) CO2 Alarm &gt;4800ppm - Relay ON / &lt;4750ppm - Relay OFF</p>
Storage Conditions	-40~70°C (-40~158°F); 0~95%RH, non condensing
Operation Conditions	-0~50°C (-32~122°F); 0~95%RH, non condensing
Net Weight/ Dimensions	190g / 135mm(W)x95mm(H)x38mm(D)
Instalment Standard	Wall mountable

## 5 Circuit Board



1. Mains Input 230V, L & N
2. Alarm relay, volt free connection to Merlin system.  
Common, Normally Open and Normal Closed.

**High and low voltage wires should not be run in the same conduit**

## 6 Maintenance

To keep your device in good working order, you must follow these steps:

- ✓ DO carefully remove any accumulated dust from the outer enclosure once a month.
- ✗ NEVER use detergents or solvents to clean your device – this may permanently or temporarily damage the gas sensing elements.
- ✗ NEVER spray air fresheners, hair spray, paint or other aerosols near the device.
- ✗ NEVER paint the device. Paint will seal vents and interfere with the device.

## 7 Manufacturer's Warranty

### 3 Year Limited Warranty

**Warranty coverage:** The manufacturer warrants to the original consumer purchaser, that this product will be free of defects in material and workmanship for a period of three (3) years from date of purchase. The manufacturer's liability hereunder is limited to replacement of the product with repaired product at the discretion of the manufacture. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering or other causes not arising from defects in material or workmanship. This warranty extends to the original consumer purchaser of the product only.

**Warranty disclaimers:** Any implied warranties arising out of this sale, including but not limited to the implied warranties of description, merchantability and intended operational purpose, are limited in duration to the above warranty period. In no event shall the manufacturer be liable for loss of use of this product or for any indirect, special, incidental or consequential damages, or costs, or expenses incurred by the consumer or any other user of this product, whether due to a breach of contract, negligence, strict liability in tort or otherwise. The manufacturer shall have no liability for any personal injury, property damage or any special, incidental, contingent or consequential damage of any kind resulting from gas leakage, fire or explosion. This warranty does not affect your statutory rights.

**Warranty Performance:** During the above warranty period, your product will be replaced with a comparable product if the defective product is returned together with proof of purchase date. The replacement product will be in warranty for the remainder of the original warranty period or for six months – whichever is the greatest.



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